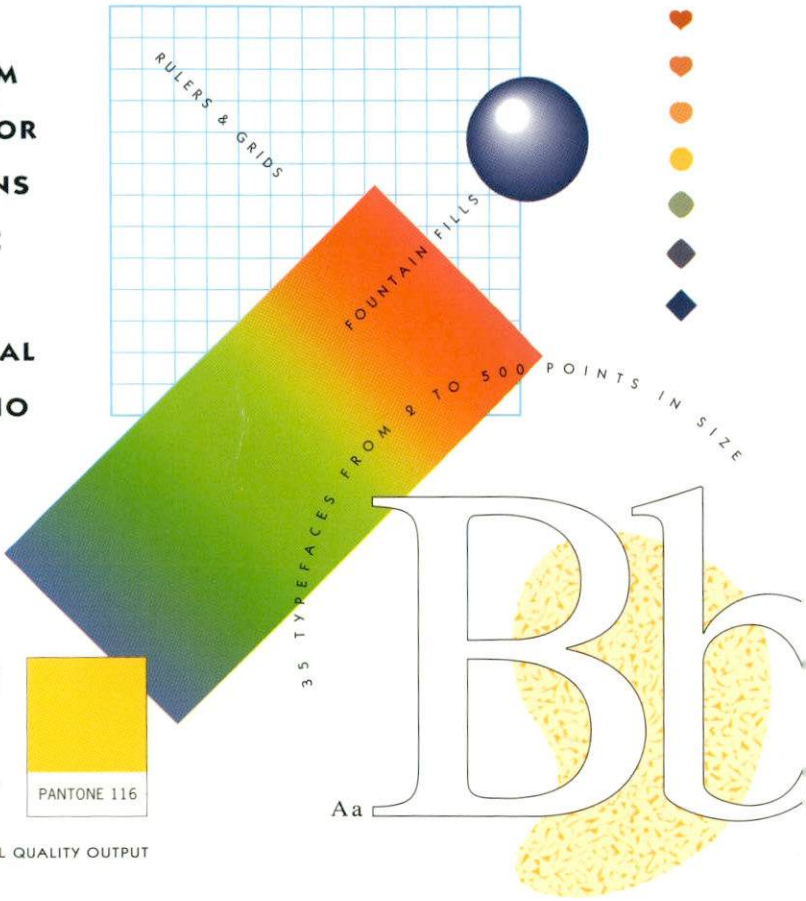
The power of Corel DRAW!... For Hundreds of Dollars Less

KEY Draw! PLUS

SOFTWARE FOR **IBM®** PC'S AND COMPATIBLES

THE FREE FORM ILLUSTRATOR THAT TURNS YOUR PC INTO A COMMERCIAL ART STUDIO



FREE INSIDE

THE FAMOUS ELECTRONIC **PANTONE®** COLOR PALETTE FOR COMMERCIAL QUALITY OUTPUT

PANTONE 116

softkey

CHANGING THE WAY AMERICA BUYS SOFTWARE

KEY Draw! Plus

NOTE: The Documentation for Key Draw! Plus is comprised of the following manuals:

- Key ***Draw! Plus*** Installation/Setup Guide
- Key ***Draw! Plus*** Tutorial
- Key ***Draw! Plus*** User Reference Guide
- Key ***Draw! Plus*** Utilities Guide
- Key ***Draw! Plus*** Clip Art Gallery

Key Draw! Plus

The Power of Corel Draw! ...
For Hundreds of Dollars Less

SoftKey Software Products of Florida, Inc.
4800 North Federal Highway
3rd Floor, Building D
Boca Raton, FL. 33431

Technical Support
(407) 367-1415
Fax (407) 367-1611

All Trademarks are the property of their respective companies.

Portions Copyright © 1990 Digital Research Inc. All rights reserved. No part of this publication may be reproduced, transcribed, stored in a retrieval system, or translated into any language or computer language, in any form or by any means, electronic, mechanical, magnetic, optical, chemical, manual or otherwise without the prior written permission of Digital Research Inc., 70 Garden Court, Box DRI, Monterey, California 93942.

PANTONE ® *

PANTONE Computer Video simulations used in this product may not match PANTONE-identified solid color standards. Use current PANTONE Color Reference Manuals for accurate color.

'PANTONE Color Computer Graphics' © Pantone Inc. 1986, 1988.

Pantone Inc. is the copyright owner of PANTONE Color Computer Graphics and Software which are licensed to Digital Research Incorporated to distribute for use only in combination with **Key *Draw! Plus***. PANTONE Color Computer Graphics and Software shall not be copied onto another diskette or into memory unless as part of the execution of **Key *Draw! Plus***.

* Pantone, Inc.'s check-standard trademark for color reproduction and color reproduction materials.

Copyright by SoftKey Software Products of Florida, Inc. all rights reserved.

IMPORTANT NOTE: In order to receive Technical Support and notification of product upgrading and enhancements, please return the enclosed registration card to SoftKey Software Products of Florida, Inc.

SOFTKEY SOFTWARE PRODUCTS of FLORIDA, INC.

PROGRAM LICENSE AGREEMENT

PLEASE READ THE FOLLOWING TERMS CAREFULLY BEFORE USING THIS PROGRAM.

Key Draw! Plus is a registered trademark of R. TV. Marin B.V.

All rights reserved. This publication contains proprietary information which is protected by copyright. No part of this publication may be reproduced, transcribed, stored in a retrieval system, translated into any language or computer language, or transmitted in any form whatsoever without the prior written consent of the Publisher.

NOTICE: SoftKey Software Products of Florida, Inc., R. TV. Marin B.V., and affiliated companies (collectively the "Publisher") make no representations or warranties of any kind whatsoever with respect to the contents hereof and specifically disclaim any implied warranties or merchantability or fitness for any particular purpose. The Publisher shall not be liable for errors contained herein or for incidental or consequential damages in connection with the furnishing, performance, or use of this publication or its contents.

The Publisher warrants the diskettes on which the software is recorded to be free from defects in materials and faulty workmanship under normal use for a period of 90 days after the date of the original purchase. If during this 90 day period, a defect in the diskettes should occur, the diskettes may be returned to the Publisher or an authorized dealer and the Publisher will replace the diskettes without charge provided that you have completed and returned the enclosed registration card from the Publisher.

KEY Draw! Plus

Installation/Setup Guide

softkey

Changing The Way America Buys Software

Table of Contents

Installation Overview 1-1
- Before You Begin 1-1
- How Setup Works 1-4
- Pages 1-5
- Menus 1-6
- Dialogs 1-7
- Getting Help 1-7

Installation 2-1
- The Setup Program 2-1
- What Setup Does 2-1
- Helpful Hints 2-2
- Starting and Exiting Setup 2-3
- Changing an Existing Configuration 2-13
- Installation Results 2-14

Starting and Exiting Key *Draw! Plus* 3-1
- Starting from the Command Line 3-1
- Starting from the GEM Desktop and ViewMAX 3-2
- Starting from Windows 3-3
- Exiting **Key *Draw! Plus*** 3-5
- Improving Program Performance 3-5

Messages A-1

Using Key *Draw! Plus* files in Ventura Publisher B-1
- **Key *Draw! Plus*** File Formats B-1
- Running VPSETUP B-2
- Starting Ventura B-2

Hardware Configuration C-1

Installation Overview

This chapter discusses:

- how to prepare for installation;
- how Setup works and how to use Setup screens;
- how Setup provides help during installation.

Before You Begin

Check the Package Contents

In addition to the set of master diskettes, your **Key *Draw! Plus*** documentation contain all of the following manuals:

- **Key *Draw! Plus*** Installation/Setup Guide
- **Key *Draw! Plus*** Tutorial
- **Key *Draw! Plus*** User Reference Guide
- **Key *Draw! Plus*** Utilities Guide
- **Key *Draw! Plus*** Clip Art Gallery
- Product Registration Card

Back Up Your Master Disks

Use your operating system's DISKCOPY command to make copies of the **Key *Draw! Plus*** master diskettes. For example:

DISKCOPY A: B: ↵

This command copies the contents of the diskette in drive A to a diskette in drive B.

Store the original diskettes in a safe place, and use the backup copies to run the installation program.

Register Your Software

Complete the registration card and mail this to SoftKey to register your software. This will entitle you to technical support and place you on the mailing list for future product upgrade and discount offers.

Prepare Your System

You need at least 430 Kb of free base memory (RAM) to install **Key *Draw! Plus***. You might need to remove any existing terminate and stay resident (TSR) programs. You must also make sure you have at least 3.5 Mb of free space on your hard disk.

Gather Hardware Information

Before you start installing **Key *Draw! Plus***, gather the following information so you are ready when Setup asks for it:

- the drive letter of the floppy diskette drive (source drive) where you will insert the **Key *Draw! Plus*** diskettes;
- the drive letter of the hard disk drive where you want **Key *Draw! Plus*** installed;
- the name of the subdirectory where you want **Key *Draw! Plus*** installed;
- the name of your graphics card and display type;
- the name of your mouse or other pointing device and, for serial mice, the mouse port identification (ID);
- the name of your printer and printer port ID;
- the name of your plotter type and plotter port;
- the name of your camera type and camera port.

For more information about port identifications, see About Communications Ports later in this chapter.

Setup provides a series of help screens that provide details about the device and system configuration information that it requests. You can usually obtain hardware model information from the labels on your equipment. If you are unsure about a product name or type, consult your hardware documentation or computer dealer.

The following table is an example hardware configuration. Appendix D contains a blank form of this table: fill it in with the information for your system, and have it accessible during the installation process for convenient referencing.

Device Type	Device Name
VDT - Graphics Display Type	IBM® VGA 16-color
Pointer Device (Mouse) ID / Port #	Microsoft® serial mouse / COM1
Printer 1 - Printer ID / Port #	HP LaserJet Series II / LPT1
Printer 2 - Printer ID / Port #	Epson® FX-80 / LPT2
Plotter ID / Port #	Not used
Camera ID / Port #	Not used

NOTE: After the installation is complete and you find that you specified the wrong device, don't worry—it will not harm your system—but the device won't function. You can correct the error by following the instructions in "Changing an Existing Configuration" in Chapter 2.

About Communications Ports

If you are using a printer, a non-bus mouse or other peripheral device, it is physically attached to a communications port located at the back of your computer. Setup asks you for the number of each port you use.

There are two types of communications ports:

- A serial port is identified by the prefix COM followed by a number—usually 1 or 2 (COM1, COM2, etc.).
- A parallel port is identified by LPT, followed by a number, again typically 1 or 2 (LPT1, LPT2, etc.).

If you choose a parallel device, Setup offers you a range of LPT port numbers from which to choose. Likewise, if you choose a serial device, Setup offers you a range of COM port numbers from which to choose. Unless you are using multiple parallel or serial devices, you should choose the first number ID on the list, (COM1 or LPT1).

How Setup Works

Key *Draw! Plus* works with a variety of computer types which can be connected to different printers, display monitors, pointing devices, and other equipment. To communicate with each type of device, **Key *Draw! Plus*** uses specific software programs called drivers. Setup asks you to identify the devices connected to your system to determine your specific hardware configuration.

After you enter the required information, Setup installs the appropriate drivers and builds and installs the necessary supporting applications on your hard drive. After you finish Setup, the installation process is complete and you are ready to start **Key *Draw! Plus***.

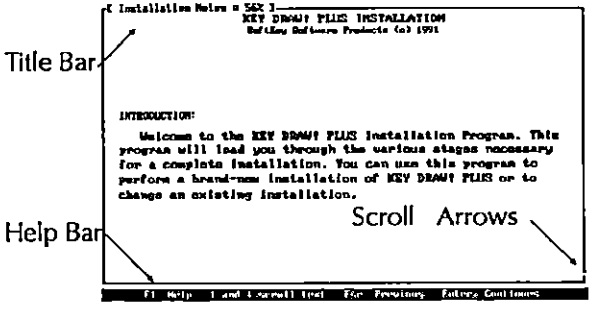
Setup Screens

Setup uses three kinds of screens to communicate and request information:

- pages
- menus
- dialogs

Pages

Pages contain explanatory text. The first Setup screen is an example of a page:


Title Bar
Help Bar
Scroll Arrows
KEY DRAW! PLUS INSTALLATION
INTRODUCTION:
Welcome to the KEY DRAW! PLUS Installation Program. This program will lead you through the various stages necessary for a complete installation. You can use this program to perform a brand-new installation of KEY DRAW! PLUS or to change an existing installation.

The *title bar* at the top of the page displays the subject of the page and the percentage of the information contained in the screen.

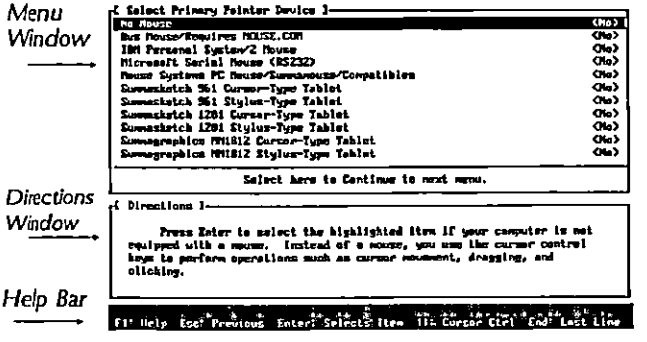
The *scroll arrows* on the right of the page show the location of the text within the window. Use the arrow keys to scroll the text one line at a time and the **[PgUp]** and **[PgDn]** keys to scroll by screens.

The *Help bar* at the bottom of the page lists instructions for using the page.

If you have a printer attached to port LPT1, you can print the contents of any page by pressing either **[p]** or **[P].**

Menus

A Setup menu lists options you can choose. The following is a sample menu:


Menu Window
Directions Window
Help Bar
Select Primary Pointer Device
No Mouse
Select here to Continue to next menu.
Directions
Press Enter to select the highlighted item if your computer is not equipped with a mouse. Instead of a mouse, you use the cursor control keys to perform operations such as cursor movement, dragging, and clicking.
F1=Help Esc=Previous Enter=Selects Item Tab Cursor Ctrl End=Last Line

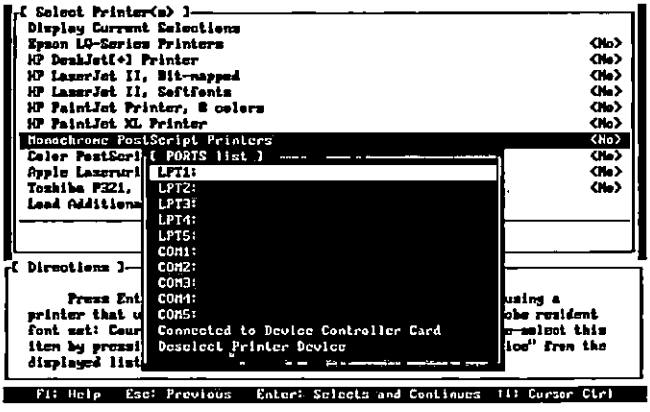
The menu window lists the menu entries. Use the arrow keys to scroll through them. As you scroll, each entry
becomes highlighted. To choose a highlighted entry, press Enter.

The directions window explains your options for each menu entry.

The Help bar at the bottom of the menu lists instructions for using the page menu.

Dialogs

Setup uses dialogs to request additional information about a preceding menu selection. The dialog below is displayed after you choose a printer; it asks you to identify the port to which the printer is connected.



Getting Help

Setup provides three levels of Help:

- Item Description
- Context Help
- Keyboard Commands

Item Descriptions Like the Directions window associated with menus, each Item Description explains your options for a selected item on the screen.

Context Help Press **[F1]** to access Context Help, which explains your options or the objectives of the current menu or screen.

Keyboard Commands Press [**F1**] a second time to access Keyboard Commands Help. This screen lists all the commands that can be performed by pressing one or more keys simultaneously.

Exiting Help To exit Help at any time, press **[Enter].**

Installation

This chapter describes:

- the Setup program, how it works, and what it does;
- step-by-step instructions for installing **Key *Draw! Plus***;
- how to change an existing **Key *Draw! Plus*** configuration;
- the directories that Setup creates on your disk.

The Setup Program

To install **Key *Draw! Plus*** on your system, you run the Setup program. Setup creates the **Key *Draw! Plus*** directories on the hard disk drive you specify, and installs the necessary files into these directories. Setup can be run from any floppy drive and can write files into any valid hard disk directory that you specify.

Setup can also install special driver packs for certain devices that are not listed specifically. Contact SoftKey Technical Support Department (416) 602-1244 if you have a device that is not listed in the Setup menus during the installation.

What Setup Does

When you run Setup, you accomplish two basic steps:

- you define your *software configuration*, that is, the hard disk drive and directories in which you want **Key *Draw! Plus*** and related files to reside;
- you define your *hardware configuration*, that is, the type of screen display, mouse, printer, etc., that you have in your system.

Given this information, Setup can build the necessary files and install them on your system.

Helpful Hints

Throughout the installation process, you will see <Yes> or <No> on the right side of the installation screen. You can change these with the space bar. If you make a mistake and accidently set a selection to <Yes>, you can change it back to <No> by pressing the **[Del]** key. The **[End]** key returns you to the "Select Here to Continue" selection. If you want to back up one menu, press the **[Esc]** key. Pressing the **[Home]** key returns you to the top of the option list.

Starting and Exiting Setup

To begin installation:

1. Insert the disk labeled *Installation Disk* into the source drive. The source drive can be any floppy disk drive that is media-compatible with the installation disks. For example, if you want to use the A drive as the source, type:

   A: ↵

   SETUP ↵ or **A:SETUP** ↵

If the source drive is B, then type:

B: ↵

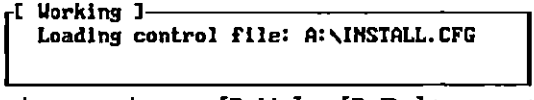
SETUP ↵ or **B:SETUP** ↵

NOTE: If you are using a plasma or LCD two-color display with a color emulation mode, use the /M monochrome switch. For example, if your source drive is A, then type:

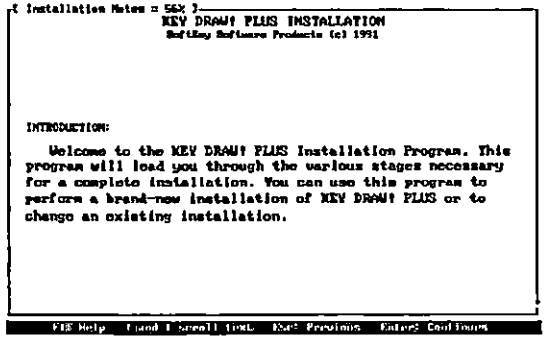
A:SETUP /M ↵

You will see the following screen momentarily as the Setup program loads.

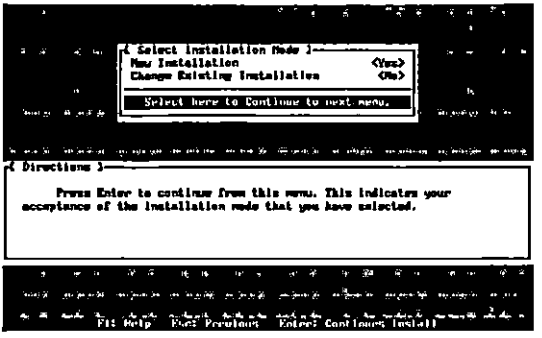
When Setup is finished loading, the **Key *Draw! Plus*** Installation screen appears.



2. Use the arrow keys or **[PgUp]** or **[PgDn]** to page through the information in this screen. When you are ready to continue, press **[Enter]**.


KEY DRAW! PLUS INSTALLATION
INTRODUCTION:
Welcome to the KEY DRAW! PLUS Installation Program. This program will load you through the various stages necessary for a complete installation. You can use this program to perform a brand-new installation of KEY DRAW! PLUS or to change an existing installation.

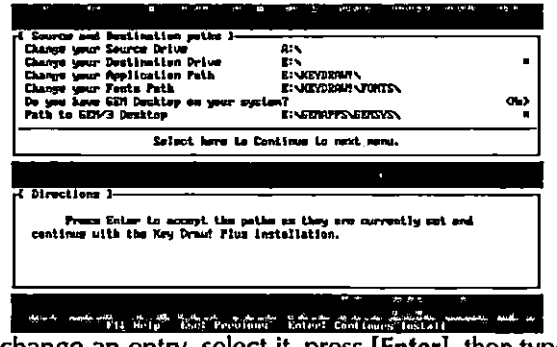
3. After you have read the installation instructions, press **[Enter]**. Setup displays the Select Installation Mode Menu. "New Installation" is pre-set to <Yes>, and the "Select Here to Continue to next menu." bar is highlighted. Press **[Enter]** to select it.


Select Installation Mode
New Installation
<Yes>
Change Existing Installation
<No>
Select here to Continue to next menu.
Directions
Press Enter to continue from this menu. This indicates your acceptance of the installation mode that you have selected.
F1: Help
Enter: Continues Install

NOTE: Once you begin the installation, you can stop Setup at any time and immediately return to the operating system command line without installing **Key *Draw! Plus*,** *by pressing* **[Alt] [X]**.

Define your software configuration:

1. Use the arrow keys to highlight the entries in this menu. To select an entry, highlight it, then press **[Enter]**. Setup displays the Source and Destination paths menu.


Source and Destination paths
Change your Source Drive
A:\
Change your Destination Drive
E:\
Change your Application Path
E:\KEYDRAW\
Change your Fonts Path
E:\KEYDRAW\FONTS\
Do you have GEM Desktop on your system?
<No>
Path to GEM/3 Desktop
E:\GEMAPPS\GEMSYS\
Select here to Continue to next menu.
Directions
Press Enter to accept the paths as they are currently set and continue with the Key Draw! Plus installation.
F1: Help
Enter: Continues Install

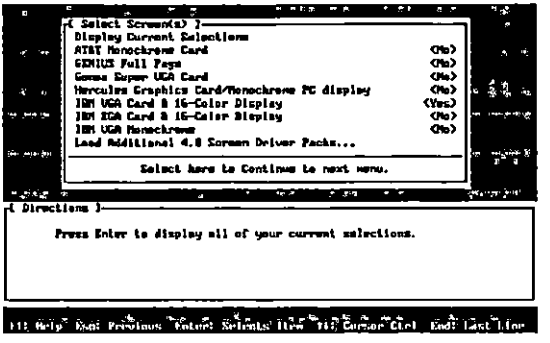
2. To change an entry, select it, press **[Enter]**, then type the full path name of the new directory. To accept all entries select the Continue bar using the **[End]** key, and press **[Enter]**.
3. If you have an existing GEM/3 Desktop installed on your system, use the arrow keys to highlight "Do you have an existing GEM/3 Desktop", press the space bar to change <No> to <Yes>, and then type the correct path to the existing GEM/3

Desktop on the next line. This step will allow you to use **Key *Draw! Plus*** from your Desktop by clicking on the KEYDRAW!.BAT icon.

NOTE: Setup will not alter your existing GEM/3 Desktop.

Define your hardware configuration:

1. When Setup displays the Select Screen(s) menu, identify your computer's display type.

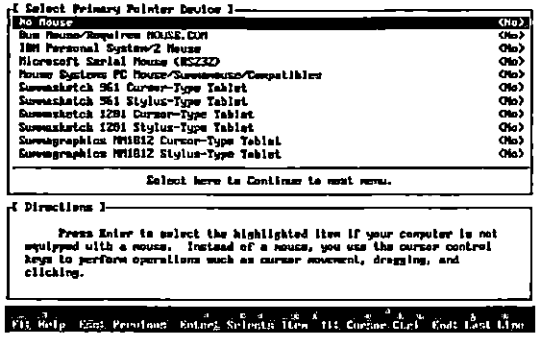

{ Select Screen(s) }
Display Current Selections
AT&T Monochrome Card <No>
GENIUS Full Page <No>
Genoa Super VGA Card <No>
Hercules Graphics Card/Monochrome PC display <No>
IBM VGA Card 8 16-Color Display <Yes>
IBM EGA Card 8 16-Color Display <No>
IBM VGA Monochrome <No>
Load Additional 4.0 Screen Driver Packs...
Select Here to Continue to next menu.
{ Directions }
Press Enter to display all of your current selections.

2. Choose the entry for your display monitor or for a compatible model. The directions listed for each entry are explained in the directions box to help you choose the correct monitor.

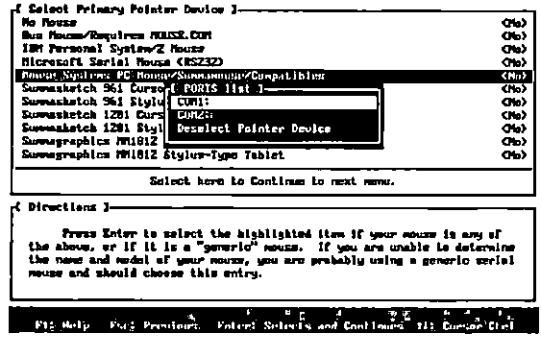
   If the monitor type that you are using is not on the list, select "Load additional 4.0 Screen Driver Packs" and press **[Enter]**. If you do not have the current 4.0 screen driver pack, contact SoftKey Technical Support (416) 602-1244.

3. You can select as many display monitors as you intend to use. If you select multiple displays, Setup asks you to identify the *primary* display. The primary display is the one you use most often. When you start **Key *Draw! Plus***, it loads the driver for this screen automatically. Use the **[Del]** key to change a previously-selected <Yes> to <No> and the space bar or **[Enter]** to change from <No> to <Yes>.

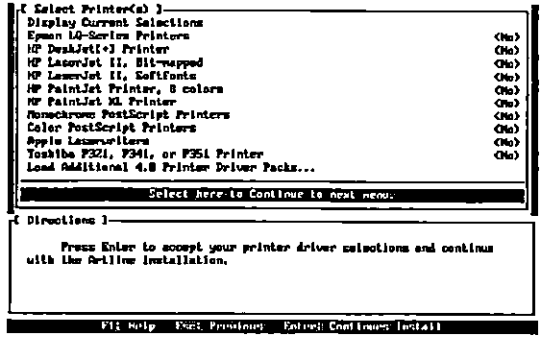
4. To continue, press **[End]** to highlight the Continue bar, then press **[Enter]**. Setup displays the Select Primary Pointer Device menu.


[Select Primary Pointer Device]
No Mouse
Bus Mouse/Requires MOUSE.COM
IBM Personal System/2 Mouse
Microsoft Serial Mouse (MSZ3Z)
Mouse Systems PC Mouse/Sunmouse/Compatibles
Summasketch 961 Cursor-Type Tablet
Summasketch 961 Stylus-Type Tablet
Summasketch 1201 Cursor-Type Tablet
Summasketch 1201 Stylus-Type Tablet
Summagraphics MM1812 Cursor-Type Tablet
Summagraphics MM1812 Stylus-Type Tablet
<No>
Select here to Continue to next menu.
[Directions]
Press Enter to select the highlighted item if your computer is not equipped with a mouse. Instead of a mouse, you use the cursor control keys to perform operations such as cursor movement, dragging, and clicking.
F1: Help Esc: Previous Enter: Selects Item F10: Continue Ctrl-End: Last Line

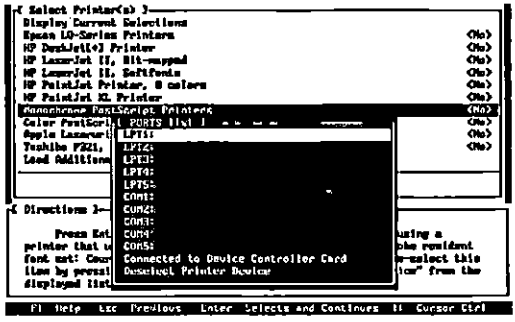
5. Choose your mouse type or other pointing device. If you choose a mouse that connects to a port, Setup displays the Ports List menu.


[Select Primary Pointer Device]
No Mouse
Bus Mouse/Requires MOUSE.COM
IBM Personal System/2 Mouse
Microsoft Serial Mouse (MSZ3Z)
Mouse Systems PC Mouse/Sunmouse/Compatibles
Summasketch 961 Cursor
Summasketch 961 Stylu
Summasketch 1201 Curs
Summasketch 1201 Styl
Summagraphics MM1812
Summagraphics MM1812 Stylus-Type Tablet
[PORTS List]
COM1:
COM2:
Deselect Pointer Device
<No>
Select here to Continue to next menu.
[Directions]
Press Enter to select the highlighted item if your mouse is any of the above, or if it is a "generic" mouse. If you are unable to determine the name and model of your mouse, you are probably using a generic serial mouse and should choose this entry.
F1: Help Esc: Previous Enter: Selects and Continues F10: Cursor Ctrl

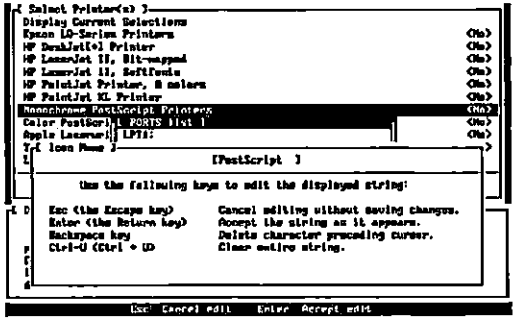
6. Choose your mouse port ID, then press **[Enter]**. When Setup redisplays the Select Primary Pointer menu, the port ID is displayed to the right of the device name.
7. To continue, press **[End]** to highlight the Continue bar, then press **[Enter]**. Setup displays the Select Printer(s) menu.


[Select Printer(s)]
Display Current Selections
Epson LQ-Series Printers
HP DeskJet(+) Printer
HP LaserJet II, Bit-mapped
HP LaserJet II, Softfonts
HP PaintJet Printer, 8 colors
HP PaintJet XL Printer
Monochrome PostScript Printers
Color PostScript Printers
Apple LaserWriters
Toshiba P321, P341, or P351 Printer
Load Additional 4.0 Printer Driver Packs...
<No>
Select Here to Continue to next menu
[Directions]
Press Enter to accept your printer driver selections and continue with the Active Installation.
F1: Help Esc: Previous Enter: Continues Install

8. Choose the entry for your printer or for a compatible printer. Setup then displays the Printer(s) Ports menu:

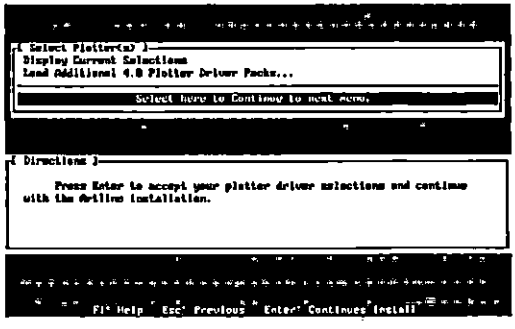


9. Highlight the port ID for the printer and press **[Enter]**. The Icon Name Editor menu appears.



This dialog displays the label of the icon that **Key *Draw! Plus*** uses to represent the printer you selected. To change the name, press **[Ctrl]** [U], then type in a new name up to 12 characters long. Press **[Enter]** to complete your selection.

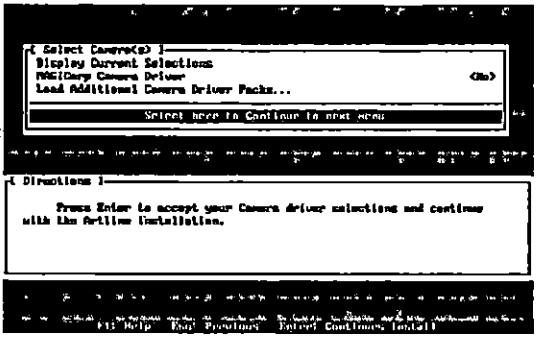
10. To continue, press **[End]** to highlight the Continue bar, then press **[Enter]**. Setup displays the Select Plotter(s) screen.



11. If you do not want to install a plotter, just press **[Enter]**. Plotter drivers are only available in a 4.0 Driver Pack. Insert the plotter driver you want into the source floppy drive, then use the arrow keys to highlight *Load Additional 4.0 Plotter Driver Packs* and press **[Enter]**

    Setup prompts you to selectg the plotter you want to install. Use the arrow keys to highlight your selection and press **[Enter]**.

12. To contnue, press **[End]** to highlight the Continue bar, then press **[Enter]**. Setup displays the Select Camera(s) screen.

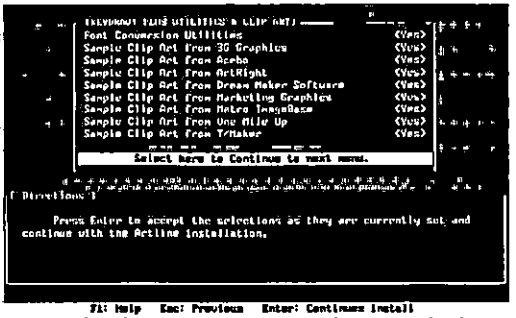

Select Camera(s)
Display Current Selections
MAGICorp Camera Driver
<No>
Load Additional Camera Driver Packs...
Select here to Continue to next area
Directions
Press Enter to accept your Camera driver selections and continue with the Artline Installation.

13. If you do not want to install a camera, just press **[Enter]**. To install a MAGICorp camera, use the arrow keys to highlight it, press the space bar to change to <Yes>, press **[End]** and then press **[Enter]** to continue.

    To install a 4.0 Camera Driver Pack, use the arrow keys to highlight *Load Additional 4.0 Camera Driver Packs* and press **[Enter]**.

    Setup prompts you to select the camera you want to install. Use the arrow keys to highlight your selection and press **[Enter]**.

14. To continue, press **[End]** to highlight the Continue bar, then press **[Enter]**. Setup displays the **Key *Draw! Plus*** Utilities & Clip Art Screen.

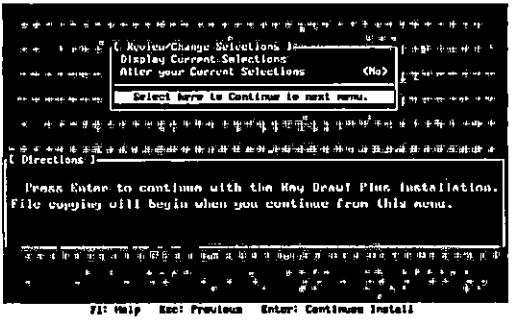

Font Conversion Utilities
Sample Clip Art From 3G Graphics
Sample Clip Art From Acebo
Sample Clip Art From ArtRight
Sample Clip Art From Dream Maker Software
Sample Clip Art From Marketing Graphics
Sample Clip Art From Metro ImageBase
Sample Clip Art From One Mile Up
Sample Clip Art From T/Maker
Select here to Continue to next menu.
Press Enter to accept the selections as they are currently set and continue with the Artline installation.
F1: Help Esc: Previous Enter: Continues Install

15 If you want the font conversion utilities and Clip Art just press **[Enter]** to continue.

NOTE: The sample Clip Art requires the following amounts of disk space:

3G Graphics	800 Kb
Acebo	200 Kb
ArtRight	400 Kb
Dream Maker Software	600 Kb
Marketing Graphics	275 Kb
Metro ImageBase	600 Kb
One Mile Up	1 Mb
T/Maker	800 Kb

16. If you do not need the font conversion utilities or the Clip Art, you can choose to de-select them by highlighting the item with the arrow keys, then changing <Yes> to <No> using the **[Del]** key.
17. To continue, press **[End]** to highlight the Continue bar, then press **[Enter]**. Setup displays the Review/Change Selections Screen.


Review/Change Selections
Display Current Selections
Alter your Current Selections <No>
Select here to Continue to next menu.
Press Enter to continue with the Key Draw! Plus Installation.
File copying will begin when you continue from this menu.
F1: Help Esc: Previous Enter: Continues Install

Install program files onto your system:

1. Display or alter your selections, then press **[End]** to choose the Continue bar and prss **[Enter]** to continue.

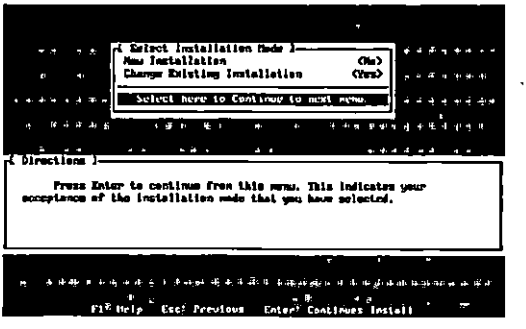
   Setup now begins to copy the **Key *Draw! Plus*** application and all related files onto your system.
2. Insert the installation disks that Setup requests. The number of disks you need to insert depends on the particular display sscreens, printers, plotters, etc. that you have selected.
3. When Setup finishes copying files, the installation is complete. Remove the installation disks from the source drive and store them in a safe place.
4. You are now ready to run **Key *Draw! Plus***. Refer to Chapter 3, *Starting and Exiting* **Key *Draw! Plus***, for instructions on how to start and exit **Key *Draw! Plus***.

Changing an Existing Configuration

The processs for changing an existing setup is almost identical to a new installation. The only difference is that instead of using Setup from the source drive, you use *AISetup* from the hard disk. For example, if you installed **Key *Draw! Plus*** on drive C, to change an existing configuration type:

C:\KDSETUP [Enter]

Setup then displays the Select Installation Mode Menu. *Change Existing Installation* is set to <Yes>. Press **[Enter]** to continue. Remember to use the **[Del]** key if you want to change <Yes> to <No>.

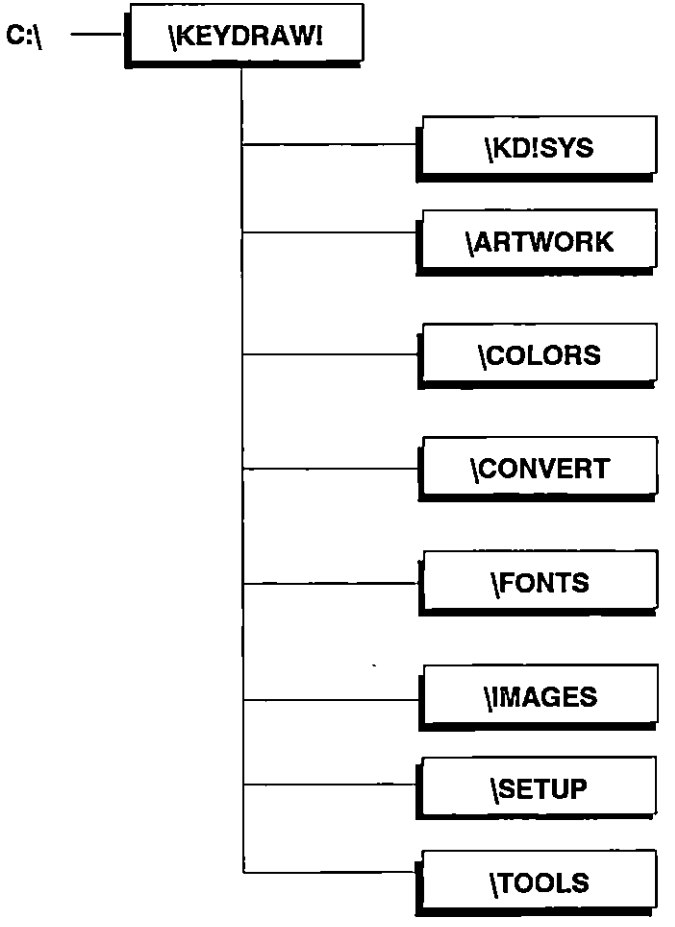

Select Installation Mode
New Installation
Change Existing Installation
Select here to Continue to next menu.
Directions
Press Enter to continue from this menu. This indicates your acceptance of the installation mode that you have selected.
F1 Help
Esc Previous
Enter Continues Install

When you change an existing configuration, AISetup will ask you only for the disks that pertain to the ssoftware that changes. For example, AISetup will not ask you to insert any disks if you change the mouse or a communciations port.

NOTE: If for some reason your initial installation is stopped before Setup completes copying all the files onto your hard disk, you should run Setup again from the floppy diskette drive, and set Change Existing Installation to <Yes>. Select the same choices again, and insert the proper diskettes when Setup asks for them. Setup will again start copying files from the place where it was interrupted.

Installation Results

The figure below illustrates the directory structure Setup installs on your hard disk. The files that are in each directory vary according to the differenct hardware choices you made during the installation.



Starting and Exiting Key *Draw! Plus*

This chapter explains how you start and exit **Key *Draw! Plus***. At this point, you should have completed the installation process and exited **Key *Draw! Plus***. You are now ready to start using **Key *Draw! Plus***.

This chapter describes starting **Key *Draw! Plus*** from:

- the operating system command line;
- the GEM/3 Desktop;
- ViewMAX;
- Windows/286, Windows/386, or Windows 3.0.

This chapter also describes:

- customizing Windows PIF files;
- exiting **Key *Draw! Plus***
- tips for improving program performance.

Starting from the Command Line

To start **Key *Draw! Plus*** from the operating system prompt, change to the drive on which you installed **Key *Draw! Plus*** and then go directly to the root directory. For example, if you installed **Key *Draw! Plus*** on drive C, you would enter these commands:

```
C:
CD\
```

To start **Key *Draw! Plus***, type this command:

```
KEYDRAW!
```

To start **Key *Draw! Plus*** and load a file, type this command:

```
KEYDRAW!<filename.GEM>
```

where <filename> is the file you want to load. The GEM extension is required. If the file is not in the default directory, you must include the full directory path. For example, to start **Key *Draw! Plus*** and load FIGURE3.GEM in the subdirectory \PROJECT1 on drive C, type this command:

```
KEYDRAW! C:\PROJECT1\FIGURE3.GEM
```

NOTE: When typing operating system directory names on the command line, be sure to use a backslash (\), not the slash (/).

Starting from the GEM Desktop and ViewMAX

If you told Setup that you have the GEM Desktop and gave the correct path information, you can start **Key *Draw! Plus*** from the GEM Desktop. You can also start **Key *Draw! Plus*** from ViewMAX, the graphics interface in DR DOS 5.0.

To start Key *Draw! Plus* from the GEM Desktop:

1. Start the GEM Desktop as you normally do.
2. Open the GEMAPPS directory on the drive on which the GEM Desktop is installed.
3. Double-click on the icon for the file ARTLINE2.APP.

To start Key *Draw! Plus* from ViewMAX:

1. Start ViewMAX as you normally do.
2. Switch to the root directory of the drive on which you have installed **Key *Draw! Plus***.
3. Double-click on the icon for the file KEYDRAW!.BAT.

Notes on Starting Key *Draw! Plus* from the GEM Desktop and ViewMAX

- When you start **Key *Draw! Plus*** from the GEM Desktop or ViewMAX, you will see a momentary "blackout" on the screen as the transition occurs from your GEUM Desktop or ViewMAX system software to the **Key *Draw! Plus*** system software.
- Memory-resident programs (TSR's) can reduce available memory so that you cannot start **Key *Draw! Plus*** from the GEM Desktop or ViewMAX. If you receive an alert saying there is not enough memory to start **Key *Draw! Plus***, return to the operating system command line, remove any TSR's, and try again. If you still get the "not enough memory" alert, you must start **Key *Draw! Plus*** from the command line.
- Always start the GEM Desktop or ViewMAX first, and then start **Key *Draw! Plus***. Do not try to start the GEM Desktop or ViewMAX from **Key *Draw! Plus*** with the **To App** command.

Starting from Windows

Because **Key *Draw! Plus*** was not specifically designed to run under Microsoft Windows, you must use a *Program Information File (PIF)*, which contains the application name, its path, and various other parameters.

You can start **Key *Draw! Plus*** from the Windows Executive by using one of the associated PIF files that was copied onto your hard disk during Setup.

Windows/286

If you are using Windows/286, use the operating system's COPY command to copy AL286.PIF from the \KEYDRAW! directory on the drive where you installed **Key *Draw! Plus*** to your \WINDOWS\PIF directory.

To Start **Key *Draw! Plus*** from Windows/286

1. Double click on the AL286.PIC icon in the \WINDOWS\PIF directory.
2. **Key *Draw! Plus*** closes out Windows and then runs. Upon exit, it reloads Windows. Although AL286.PIF has been configured to provide the best performance, you can modify this file to suit your requirements. You will need to modify AL286.PIF if you did a non-standard installation (installed the files on drive D:\ or changed the names of directories. To modify AL286.PIF, follow the instructions in your Windows documentation.

Windows/386

If you are using Windows/386, use the operating system's COPY command to copy AL386.PIF from the \KEYDRAW! directory on the drive where you installed **Key *Draw! Plus*** to your \WINDOWS\PIF directory.

To Start **Key *Draw! Plus*** from Windows/386

1. Double click on the AL386.PIC icon in the \WINDOWS\PIF directory.
2. **Key *Draw! Plus*** closes out Windows and then runs. Upon exit, it reloads Windows. Although AL386.PIF has been configured to provide the best performance, you can modify this file to suit your requirements. You will need to modify AL386.PIF if you did a non-standard installation (installed the files on drive D:\ or changed the names of directories. To modify AL386.PIF, follow the instructions in your Windows documentation.

Messages

This appendix contains some of the messages you might receive while running the **Key *Draw! Plus*** Setup program, and suggest the action you should take if you receive the message.

WARNING!
The program was unable to find the speficied files. This installation session will continue, but may fail because these files were not copied. Contact SoftKey Technical Support Department with the failed specifications below for a possible workaround.

Below are the files that were not found:

If you receive this message, first make sure the files on the diskette are the same as those on the master diskette. If they are not, make a new copy of the master diskette and try installing again. If the files are missing from the master diskette, contact SoftKey Technical Support Department for a replacement.

WARNING!
Bad Directory Entry in <filename>. It is highly recommended that you contact the Technical Support Department at SoftKey for a replacement disk. Press [Alt] [X] now.

If you get this message, the most likely reason is that the data on the diskette is corrupt. Make a new copy of the master diskette and try the installation again. If that fails, try using the master diskette. If that fails, then the master diskette is bad and you should contact SoftKey Technical Support for a replacement.

WARNING!
This installation session may not know your complete installation. If you have an existing insstallation that you wish to change, execute this program from your existing installation rather than from your original disk set.

You might get this messge if you attempt to reinstall **Key *Draw! Plus*** or change an existing configuration by running Setup instead of KDSETUP.BAT from the hard disk directory where you installed **Key *Draw! Plus.***

Using **Key *Draw! Plus*** *files in Ventura Publisher*

This appendix describes how you can use **Key *Draw! Plus*** files with GEM versions of Ventura Publisher.

Key *Draw! Plus* File Formats

Key *Draw! Plus* can create graphics filess in the either of two formats:

- EPSF—Encapsulated PostScript® (EPS file extension)
- GEM (GEM file extension)

ESPF Files

You can import **Key *Draw! Plus*** EPSF files directly into Ventura Publisher frames. However, note the following about EPSF files:

- An EPSF file tends to be considerably larger than a GEM file version of the same picture.
- An EPSF file cannot be viewed in Ventura unless you save it in **Key *Draw! Plus*** with a TIFF preview. In that case, Ventura converts the TIFF preview to an IMG file and loads it into the frame. You see the IMG version of the picture on the screen, usually at significantly lower resolution than the original.
- Ventura files containing EPSF files must be printed on a PostScript printer.

GEM Files

In addition to being smaller than an EPSF files, **Key *Draw! Plus*** GEM files can be printed on non-PostScript printers and can de displayed directly on the screen. However, the **Key *Draw! Plus*** system software is a later version than Ventura's, and **Key *Draw! Plus***GEM files will not lead correctly in Ventura unless you run a program called VPSETUP. (The **Key *Draw! Plus*** installation placed it on your hard disk.) VPSETUP created the necessary files for starting Ventura and copies the **Key *Draw! Plus*** system software to the VENTURA directory.

NOTE: VPSETUP does not affect your original installation. You can still start Ventura with the old batch file, without loading the **Key *Draw! Plus*** *system software.*

Running VPSETUP

To run VPSETUP:

1. On the drive where you installed **Key *Draw! Plus***, type these two commands from the command line to switch to the SETUP subdirectory and then start VPSETUP:

   CD\KEYDRAW!\SETUP
   VPSETUP

VPSSETUP functions just like SETUP. Make your selections and then insert the disks that are requested.

Note that you can create two batch files, one that starts the Ventura base edition and another that starts the Professional Extension.

- VPDRI.BAT starts the Ventura base edition
- VPPDRI.BAT starts the Ventura Professional Extension.

Starting Ventura

VPSETUP placesss the batch files in the root directory of the drive on which Ventura is installed.

To sstart Ventura

1. Switch to the root directory of the Ventura drive.
2. To start the base edition, type:

   VPDRI

To start the Professional Extension, type:

VPPDRI

As Ventura loads, you will see the following message:

Inserting DRI system software

When you quit Ventura, you will see this message:

Restoring Ventura Software

If for any reason Ventura stops before its system software can be restored (for example, in the even of a power failure), restart Ventura using **VPDRI** or **VPPDRI**. When you quit Ventura, the original system software will be restored.

Hardware Configuration Form

The following table is a blank form that you can use to keep track of your hardware configuration. Fill it in with the information for your system.

HINT: Use a pencil so you can change the entries if you change hardware.

Device Type	Device Name
VDT - Graphics Display Type	
Pointer Device (Mouse) ID/Port#	
Printer 1 - Printer ID/Port #	
Printer 2 - Printer ID/Port #	
Plotter ID/Port #	
Camera ID/Port #	

SoftKey Software Products:

Sales: (416) 602-5500
Technical Support: (416) 602-1244

Index

B

backup disks 1-1

C

Command
DISKCOPY 1-1
changing your configuration 1-3
COM1—serial port 1-3
customer support 1-1

D

dialog 1-5
directions window 1-5
driver 1-3

E

exiting Setup 2-3

G

GEM Desktop 2-4

H

hardware configuration 2-1
hardware information 1-2
Help bar 1-4, 1-5
Help screens 1-2, 1-5, 1-6

K

keyboard command 1-6

L

LCD display 2-2
LPT1—parallel port 1-3

M

menu window 1-5
mouse
non-bus mouse 1-3

N

non-bus mouse 1-3

P

parallel port 1-3
plasma display 2-2
primary display device 2-4
primary pointer device 2-4

R

registering Key Draw! Plus 1-1

S

saving your system 1-1
scroll arrow 1-4
serial port 1-3
Setup program 2-1
Setup screen 1-3
software configuration 2-1
special driver pack 2-1, 2-4

T

terminate and stay resident (TSR) program 1-1
title bar 1-4

KEY Draw! Plus

Tutorial

softkey

Changing The Way America Buys Software

Table of Contents

Preface iii
What You Should Know iv
About This Tutorial iv
If Your Version Is Customized v

Getting Acquainted 1-1
Key *Draw! Plus* Screen Components 1-1
Using the Mouse 1-3
Selecting Tools 1-3
Drawing a Rectangle 1-4
Selecting Elements 1-5
Moving Elements 1-6
Resizing Elements 1-6
Using Menu Commands 1-7
About Copying Elements 1-9
Drawing Lines 1-9
Using Dialogs 1-10
Changing the Magnification 1-13
Moving Around the Screen 1-15
Exiting **Key *Draw! Plus*** 1-16

Basic Drawing Techniques 2-1
Setting the Page Layout 2-1
Setting up the Workspace 2-2
Using Basic Drawing Tools 2-3
Saving Your Work the First Time 2-7
More About Selecting Elements 2-9
Grouping Elements 2-10
Changing the Line Width 2-10
Changing the Line Color 2-12
Ungrouping elements 2-12
Adding Fill Color 2-12
Creating a Fountain Fill 2-13
Saving Your Work 2-14
Printing Your Picture 2-15
Printing from the Output application 2-16

Working With Text and Other Elements **3-1**
Preparing the Workspace 3-1
Blending Elements 3-2
Placing Text Along a Path 3-4
Masking Elements 3-8
Merging Elements 3-12
Using the Rolling Pin with Text 3-14
Rotating Elements 3-16
Creating a Mirror Effect 3-20
More Special Text Effects 3-21

Drawing Lines and Curves with the Quill **4-1**
Drawing Line Segments and Polygons 4-2
Drawing Simple Curves 4-3
Drawing Compound Curves 4-6
Connecting a Line to a Curve 4-8
Changing the Direction of a Tangent 4-10
Tracing an Ellipse 4-13
Using Fill Color with Open and Closed Elements 4-15

Editing Curves **5-1**
Editing an Ellipse 5-1
Drawing a 90° Arc 5-17
Drawing an Equilateral Triangle 5-18

Autotracing Images **6-1**
Loading the Image 6-1
Setting Image Options 6-3
Setting Tracing Options 6-4
Autotracing the Image 6-5
Finishing the Picture 6-9
Conclusion 6-10

Standard Tools **A-1**

Index 1-i

Preface

Welcome to **Key *Draw! Plus***®, Version 2.01. **Key *Draw! Plus*** provides full color and PANTONE color support, and a full set of drawing and text manipulation tools. With **Key *Draw! Plus*** you can:

- create sophisticated graphic illustrations;
- print to PostScript® and non-PostScript output devices;
- autotrace scanned images interactively;
- create color separations;
- customize tools to perform a set of steps you specify;
- access a wide variety of fonts from different vendors;
- convert pictures to a variety of formats;
- incorporate pictures made in a variety of formats.

The **Key *Draw! Plus*** User Reference Guide gives complete and detailed instructions for all of **Key *Draw! Plus***'s functions. It also lists the key features that are new in **Key *Draw! Plus***, Version 2.01.

You can run **Key *Draw! Plus*** from several different operating systems and window management programs. The **Key *Draw! Plus*** Installation/Startup guide gives complete installation and start-up instructions for each configuration.

What You Should Know

This tutorial makes the following assumptions:

- Key ***Draw! Plus***, Version 2.01 is installed on your computer.
- You know how to start Key ***Draw! Plus*** from your system.
- Key ***Draw! Plus*** is in its default state—the way it appears when you first install it.
- You know what the following terms mean:
  - disk drive
  - system prompt
  - file
  - filename
  - filename extension
  - directory

About This Tutorial

This tutorial takes you step-by-step through most of the features of Key ***Draw! Plus***, using simple examples designed to convey a concept in as few steps as possible. You can then apply the concept to your own designs. The tutorial is designed to show graphic illustrators new ways to accomplish traditional tasks.

Initially, each step is described in full detail, but later in the tutorial it is assumed that you are more familiar with Key ***Draw! Plus*** and the steps are more briefly stated.

If you are familiar with Key ***Draw! Plus*** or other graphics programs, you might want to just skim chapters 1 and 2 for concepts you want to review and some that are new to Key ***Draw! Plus***, Version 2.01.

If you want to learn about drawing and editing curves you can do the exercises in chapters 4 and 5 at any time.

- Chapter 1 contains an introduction to Key ***Draw! Plus*** screen components, mouse techniques, tools, menus, and dialogs. This chapter also shows you how to use some of the drawing tools, and how to select, move, resize, copy, and delete elements.
- Chapter 2 shows you how to set up your workspace, use some of the drawing tools, create a picture, create a new fountain fill, save, and print. This chapter presents important concepts about selecting elements in stacks, using the grid, and using menu commands.
- Chapter 3 shows you how to use most of Key ***Draw! Plus***'s exciting features for creating special effects with text and elements. If you are familiar with the techniques for using the

mouse and menus, and for selecting tools and elements, you can do the exercises in this chapter at any time.

- Chapter 4 shows you how to draw lines and curves with the Quill tool, and Chapter 5 shows you how to edit lines and curves with the Plane tool. If you are familiar with **Key *Draw! Plus*** basics you can do the exercises in chapters 4 and 5 at any time.
- Chapter 6 teaches you how to use the interactive autotrace feature to trace a bit-image file. You can do the exercises in this chapter at any time, but because **Key *Draw! Plus*** automatically makes curves while tracing, the exercises do build on Chapters 4 and 5.
- Appendix A shows the picture and name of each tool in the standard toolbox. You can use this page for reference.

This tutorial does not attempt to cover all of the aspects of a feature, nor all of the features of **Key *Draw! Plus***. These are described in the **Key *Draw! Plus*** User Reference Guide.

For a thorough introduction to the basic concepts and features of **Key *Draw! Plus***, read Chapter 1 in the **Key *Draw! Plus*** User Reference Guide.

If Your Version Is Customized

Because **Key *Draw! Plus*** allows you to create your own color files and toolboxes, it is possible your version of **Key *Draw! Plus*** has been customized. If so, your toolbox might look different from the one in this tutorial.

In most cases you can proceed with the instructions given here because the function of each standard tool remains the same. However, if your tools appear to be so altered that you cannot follow the instructions, you can reset **Key *Draw! Plus*** to the default configuration. Refer to Chapter 13, "Tools Manager," in the **Key *Draw! Plus*** User Reference Guide for instructions on how to do that.

Getting Acquainted

This chapter teaches you the basics of using **Key *Draw! Plus***. It is designed to allow you to experiment with **Key *Draw! Plus*** and become familiar with some of its most important features. Do not worry if your screen looks different from the screens in this tutorial. By practicing the techniques described in this chapter, you will be able to follow all of the exercises in this book.

For an in-depth discussion of all basic techniques, refer to Chapter 1 of the **Key *Draw! Plus*** User Reference Guide.

For the exercises in this chapter, start **Key *Draw! Plus*** according to the instructions in the **Key *Draw! Plus*** Installation/Startup guide. When **Key *Draw! Plus*** appears on your screen, you are ready to begin.

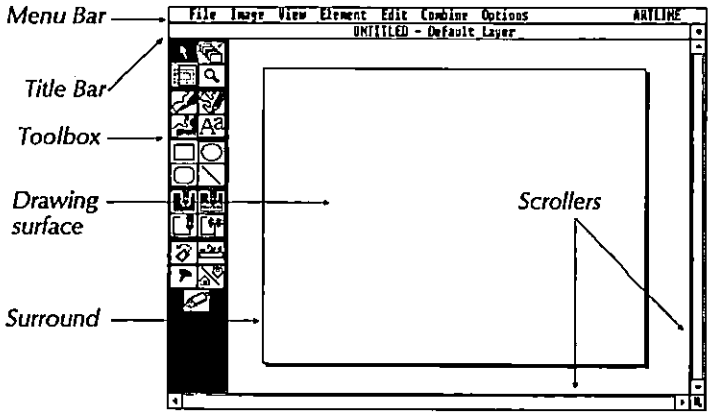
The exercises in this chapter will take you about half an hour to complete.

What is in this chapter:

- **Key *Draw! Plus*** screen components
- using the mouse, menus, and tools
- selecting, moving, resizing, and copying elements
- changing the magnification
- exiting **Key *Draw! Plus***

Key *Draw! Plus* Screen Components

The following discussion assumes **Key *Draw! Plus*** is in its default configuration, with the default view and toolbox. When you start **Key *Draw! Plus***, your screen looks like this:



Menu Bar

The top line of the screen is called the *menu bar.* It displays the names of the menus.

The menu commands are fully described in the **Key *Draw! Plus*** User Reference Guide, Chapters 3 through 9.

Title Bar

The *title bar* displays the name of the currently displayed picture and picture *layer.* If you have not yet saved the picture, the title bar reads "UNTITLED - Default Layer."

Once you save a picture, the title bar displays its filename. When you create or display a new layer, the title bar displays the layer name. In this tutorial you use the default layer only.

Layers are explained in Chapter 10 of the **Key *Draw! Plus*** User Reference Guide.

Toolbox

The *toolbox* contains the icons that represent the **Key *Draw! Plus*** tools. You will learn how to use all of the tools as you complete the exercises in this tutorial. Chapter 2 of the **Key *Draw! Plus*** User Reference Guide describes each tool in detail.

Workspace and Drawing Surface

The *workspace* is the part of the screen that is enclosed by the title bar, the toolbox, and the scrollers. It is like a frame through which you view the *drawing surface,* on which you create and edit pictures. Depending on the *view,* the drawing surface can be larger or smaller than the workspace.

The drawing surface represents one printed page and, in many ways, you can think of it as a sheet of paper. You determine its shape and size when you set up the page layout, and you determine how much of it is visible when you use the view and magnification tools. In other words, the size of the drawing surface in relation to the workspace can change, depending on the page layout and magnification level.

When you first start **Key *Draw! Plus,*** the drawing surface is set to full view (it is entirely visible in the workspace) and the page layout is set to *landscape,* which makes the drawing surface wider than it is tall.

The *surround,* described in Chapter 1 of the **Key *Draw! Plus*** User Reference Guide, is the part of the workspace that is not covered by the drawing surface. It is visible when the drawing surface is smaller than the workspace.

Using the Mouse

This section tells you about the mouse, which you use in some way in almost all program operations.

Moving the Pointer

> To move the mouse without moving the pointer, pick it up first.

The small black arrow on your screen is the *pointer;* it moves when you move the mouse. You use the pointer to select tools and elements, and to choose menu commands. Practice moving it.

Clicking

> In **Key *Draw! Plus,*** you use only the left button of the mouse.

To *click* means to press and immediately release the mouse button. You click to make selections on the screen.

Dragging

To *drag* means to press and hold the mouse button down while you move the mouse. You use this technique to:

- draw lines and shapes with the drawing tools;
- resize elements;
- move elements around the drawing surface;
- select groups of elements.

Double-Clicking

To *double-click* means to press and release the mouse button twice in rapid succession. You use this technique to:

- display options for tools that have them;
- display element information for selected elements;
- display Combine menu dialogs for combined elements;
- quickly select and exit from the Item Selector.

Selecting Tools

Refer to Appendix A for the name and icon for each tool in the standard toolbox.

When you start the program, the *Selector tool* (shown at the left) is highlighted in the toolbox, showing that it is selected, or ready for use.

When the Selector is active, the mouse pointer shape is an arrow. You use the Selector tool to select, move, and resize elements on the drawing surface.

The pointer assumes different forms, depending on which tool is selected.

The mouse pointer is always an arrow when it is over the toolbox and the menus, no matter what tool is currently selected. To select a tool, you click on it.

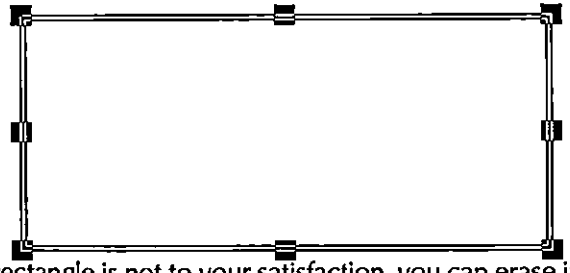
Drawing a Rectangle

The Rectangle tool makes rectangles and squares.

You use the dragging technique to draw with the Rectangle, Circle, Rounded Rectangle, and Line tools. For this exercise you will draw a rectangle.

To draw a rectangle:

1. Click on the Rectangle tool to select it, then move the pointer onto the drawing surface. The pointer changes to a cross to show that the Rectangle tool is selected.
2. Place the cross near the upper left corner of the screen, where it will define the upper left corner of the rectangle.
3. Hold the mouse button down and drag the cross diagonally (down and to the right), away from the starting point.
   As you drag, **Key *Draw! Plus*** displays an outline of the rectangle you are drawing. If you move the pointer back toward the starting point, the outline shrinks. Make the rectangle cover about one quarter of the drawing surface.
4. Release the mouse button. The rectangle is drawn on the screen, and is enclosed in a *selection frame*, a frame with solid boxes at the midpoints and corners.
   The selection frame indicates that an element is selected.



If your rectangle is not to your satisfaction, you can erase it while it is still selected, then draw a new one.

To erase the selected rectangle:

Press **[Alt]** **[E]**. That is, hold down the **[Alt]** key while you press **[E]**. The selected rectangle disappears.

Selecting Elements

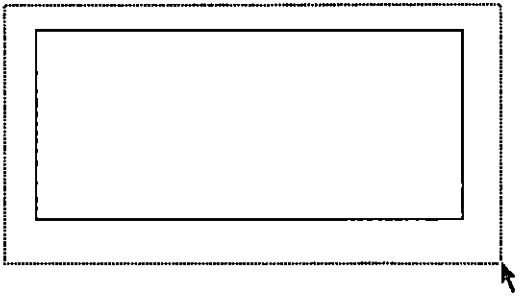
There are several ways to select elements on the drawing surface. Here are the two basic methods. Try each one.

To select the rectangle with the Selector tool:

1. Click on the Selector tool.
2. Click in the rectangle.
   The selection frame surrounds the rectangle.
3. Click outside the rectangle to de-select it.

To select the rectangle by dragging:

1. Click on the Selector tool, if it's not already selected.
2. Place the pointer *outside* the rectangle, at the *top left* corner.
3. Hold down the mouse key and drag diagonally to *outside* of the *bottom right* corner. As you drag, a dotted rectangular outline expands to show you the area you are enclosing.



4. When the outline completely surrounds the rectangle, release the mouse button.
   The selection frame surrounds the rectangle.

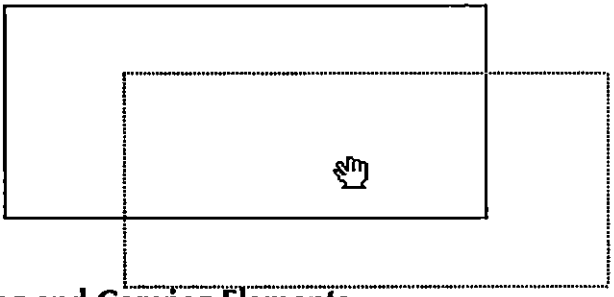
De-selecting Elements

To *de-select* is to remove the selection frame from an element.
To de-select an element, click on an empty area of the workspace. The selection frame disappears.
If you accidentally make a tiny rectangle when you click to de-select the first one, you can use the **[Alt]** **[E]** key combination to erase it.

Moving Elements

To move the rectangle:

1. Select the rectangle.
2. Place the pointer in the interior of the rectangle.
3. Press the mouse button until the pointer becomes a *hand*. The hand shows you that you can move the whole element.
4. Drag the rectangle to a new location.
   As you drag, a dotted outline of the selection frame moves with the hand.
5. Release the mouse button.
   The rectangle is in the new location.



Moving and Copying Elements

Key *Draw! Plus* provides many ways to copy an element. One way is to press the Shift key while dragging. This technique is called *Shift-dragging*.

To move and copy the rectangle:

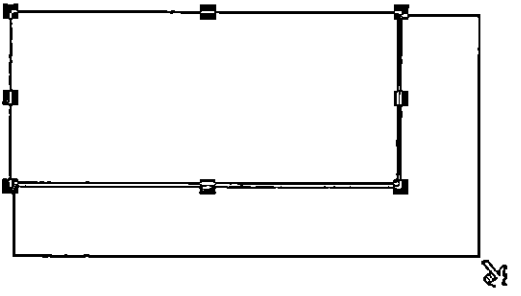
1. Select the rectangle if it's not already selected.
2. Place the pointer in the middle of the rectangle.
3. Press the **[Shift]** key first, and hold it down while you drag the rectangle to a new location. When you start dragging, the pointer changes to a hand, and a *copy* of the rectangle moves with the hand.
4. Select and delete all but one rectangle.

Resizing Elements

At the corners and in the middle of each side of a selection frame are small boxes called *handles*. You use the handles to resize selected elements.

To resize the rectangle:

1. If the rectangle you drew in the preceding section is not already selected, click on the Selector tool, then click on the rectangle to select it.
2. Place the pointer on top of the bottom right *corner* handle and press the mouse button until the pointer changes to a *pointing finger*. The pointing finger shows that you can drag a handle. If you see the hand, try again.
3. Drag the handle *down and to the right diagonally.* As you drag, the rectangle changes size.



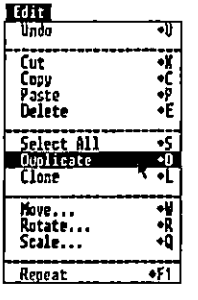
4. Drag a *middle handle* up, down, left, and right. The rectangle changes in width or height. You can drag any corner handle horizontally, vertically, and diagonally. You can drag any middle handle horizontally and vertically.

Using Menu Commands

Many menu commands act on selected elements. When no element is selected, these commands are dimmed to show they are unavailable. For this exercise, make sure the rectangle is selected.

To choose a menu command:

1. Click on the menu name to display a menu. For this exercise, click on the Edit menu.
2. When the Edit menu drops down, move the pointer through it to highlight each of the commands.
3. When you highlight the **Duplicate** command, click the mouse.
   The duplicate appears beneath and to the right of the original rectangle. To separate them, *drag* the selected element away.



Using the Repeat Command

The **Repeat** command lets you repeat the last action you performed, in this case, moving the rectangle.

To repeat the move:

1. Make sure the rectangle is selected.
2. Choose the **Repeat** command from the Edit menu. The rectangle moves again.

Using the Delete command

You can delete any element that is selected.

To delete the copied rectangle:

1. Make sure the rectangle is selected.
   Choose the **Delete** command from the Edit menu.
   The second rectangle disappears from the screen.

Undoing the Delete command

You can undo many actions you take with **Key *Draw! Plus***. Some actions cannot be undone, in which case the Undo command is dimmed.

To undo the delete and redisplay the rectangle:

Choose the **Undo Delete** command from the Edit menu.

The deleted rectangle reappears.

The exact name of the **Undo** command changes according to the action you have just taken.

To redraw the screen:

Sometimes, after a lot of editing, you might want to completely redraw the screen. To do this, press the **[Esc]** (Escape) key.

Using Keyboard Shortcuts

Some menu commands have a *keyboard shortcut*—a combination of key strokes that chooses the command.

In a previous exercise, you duplicated a rectangle by choosing the Duplicate command from the Edit menu. In this exercise, you'll duplicate a rectangle with the keyboard shortcut for the Duplicate command.

The keyboard shortcuts are listed in the menus on the right of the command name.

- Diamond (♦) indicates the **[Al]t** key.
- Caret (^) indicates the **[Ctrl]** key.
- Up-arrow (⇧) indicates the **[Shift]** key.
- Function keys are listed as **[F1]**, **[F9]**, **[F10]**.

To use the keyboard shortcut:

1. Select the rectangle.
2. Type **[Alt] [D]**: hold down the **[Alt]** key as you type the letter **[D]**.

The element is duplicated beneath and to the right of the original. To separate them, drag the selected element away.

Continuing to hold down **[Alt] [D]** creates multiple duplicates. If you do this, you can select them for deletion by:

- dragging to select a group of them;
- choosing the **Select All** command from the Edit menu.

About Copying Elements

You have already used the **Duplicate** command, the **[Alt] [D]** keyboard shortcut, and the **[Shift]**-drag technique to copy elements.

Key *Draw! Plus* provides two additonal commands to copy elements, depending on the purpose.

> The Cut command *removes* the element and places it in memory for future pasting.

The **Copy** command places a copy of the selected element in memory. You can then use the **Paste** command to paste it into the same picture, or into another picture that you open, or into another *layer*. Layers are described in Chapter 10. If you paste into the same picture or layer, the **Paste** command places the copy on top of the original element, so you must drag the copy away to see it.

The **Clone** command creates a copy of the selected element and places it on top of the original. You must drag the copy away to see the original.

Drawing Lines

You draw, move, and resize rectangles, squares, ellipses, circles, and rounded rectangles exactly the same way. Because a line has only one dimension, you manage it in a slightly different way.

To draw a line:

1. Select the Line tool. The pointer changes to a cross.
2. Place the crosshair on the left side of the drawing surface, and drag horizontally to the right side. As you drag, adjust the line up or down to try to make it exactly horizontal, although it does not need to be for this exercise. When the line is about two thirds of the screen in length, release the mouse button. The selection frame surrounds the line.

3. Click on the Selector tool.
4. To make the line longer or shorter, press on one of the *end* handles until you see the pointing finger, then drag toward the edge or toward the middle of the drawing surface. The line shortens or lenghtens.
5. To move the line, place the pointer on top of the line, but not on a handle, and press until you see the hand. Then drag the line to a new position.
   If you press on the middle handle, you get the pointing finger. For lines, dragging the pointing finger from the midpoint handle simply moves the line half the distance you drag.
   You can duplicate or delete the line just as you would any other element.

Using Dialogs

Menu commands followed by three dots display a *dialog*, a box into which you can type data or choose options. Double-clicking on an element, a group of elements, and some tools also displays a dialog for setting options.

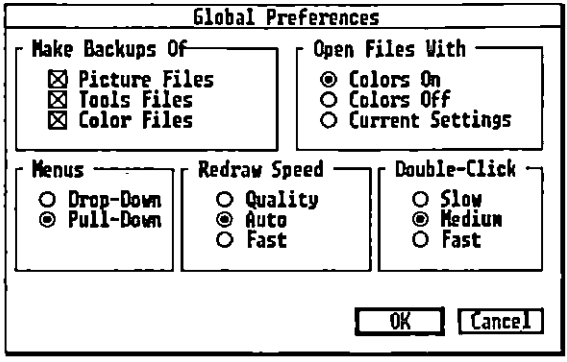
Setting Preferences

You can use the **Preferences** command to set five **Key *Draw! Plus*** functions to suit your needs:

- automatic backups
- opening settings
- menu operation
- redraw speed
- double-click speed

To set preferences:

1. Choose the **Preferences** command from the Options menu.
   Key *Draw! Plus* displays the Global Preferences dialog.



> You can place the pointer in the title bar *of a dialog* and *drag* to move it around the screen.

Chapter 9 of the **Key *Draw! Plus*** User Reference Guide describes the **Preferences** and **Save Preferences** commands in detail.
You click on *check boxes* and *radio buttons* to turn options on and off.

- Check boxes in a section indicate you can turn on as many options as you like.
- Radio buttons in a section indicate you can choose only one of the options at a time.

> **Key *Draw! Plus*** pictures have a file extension of .GEM. Backup pictures have a file extension of .$EM.

2. Under Make Backups Of, if there is not already an X in the box next to Picture Files, click to place one there. This will cause **Key *Draw! Plus*** to make a backup of any picture you make.
3. Under Menus, click on the radio button next to the kind of menu you prefer.
   - ➢ Drop-Down menus means you just move the mouse pointer over the menu name to display a menu.
   - ➢ Pull-Down menus means you must click or hold down the mouse button on the menu name to display a menu.
4. Under Redraw Speed, click on Quality. This displays the best screen picture, but takes longer to draw. For highly detailed pictures, you might want to use Fast. You can also open files

with Colors Off to display complex pictures faster.
You can change your double-click speed if you want.

5. Click on OK or press ↵ to exit the dialog.
   Notice that you can click on Cancel to exit a dialog without making any changes.
   You can also press the **Esc** (Escape) key to cancel a dialog.

Your preferences are now in effect until you quit this session of **Key *Draw! Plus***.

NOTE: Preferences are active for the current session only. To keep them active for subsequent sessions you must choose the **Save Preferences** *command from the Options menu.*

Setting Tool Options

Double-clicking on some tools opens a dialog that allows you to set options for the way in which the tool functions.

For example, you might have had difficulty drawing a horizontal line in the preceding section. You can use the Line Options dialog to set the angle at which lines are drawn.

To set Line tool options:

1. Double-click on the Line tool. The Line Options dialog appears. The Snap Angle *field* is highlighted and contains the number 0 (degrees).

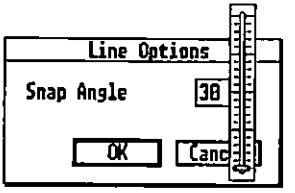
   > When a dialog field is highlighted, you can change its value by typing in a new value. As you type, the value appears in the field.

2. Type the number **30** (degrees). The number appears in the box. Press Backspace to clear the field.
   You can press the plus (+) and minus (-) keys on the numeric keypad to increase or decrease the value by ten degrees. Hold down the **[Shift]** key while you press the key to change the value by one degree.
   Alternatively, you can place the pointer anywhere in the Snap Angle field and press the mouse button to display a *pop-up slider* that you can drag up and down to change the value. The slider shows the range of acceptable values for that field.

   > Press the **Shift** key while you drag to change the value by one degree.

   Leave the value set to 30 degrees *(please see facing page).*

3. Click on OK or press ↵ to exit the Line Options dialog.



4. Practice drawing some horizontal, vertical, and diagonal lines. **Key *Draw! Plus*** constrains them to 30° angles.

Changing the Magnification

This section shows you how to change the magnification level of a picture.

For this exercise, be sure to have one or two rectangles in the center area of the drawing surface. You can keep the line in the picture also.

You can use any of the following tools to change the magnification:

- View tool
- Magnifier tool
- magnification keys

Note that the View *menu* contains commands to display and hide items such as rulers, grids, colors, and even tools, but this menu does not change the magnification level or location of a picture on the drawing surface.

Key *Draw! Plus* opens pictures in Full View, which means you can see the whole drawing surface. The view size has no effect on the size of the printed picture, but it does affect how much of the drawing surface you see on the screen.

NOTE: When you magnify the view, elements appear very large, but you are looking at a very small portion of the drawing surface. The drawing surface extends beyond the workspace, and elements that are selected on the part you cannot see can be affected by the next action you take.

Using the View Tool

The View tool lets you choose from three view sizes:

- Full View
- Normal View
- Reduced View

You can also compose your own view and name it using the **New View** command in the View tool pop-up menu.

Using the Scroll Arrows

To scroll the picture by small increments, click on the up arrow or the down arrow on the vertical scroll bar or on the left or right arrow on the horizontal scroll bar.

Using the Slider

To scroll the picture by an increment of your choice, drag the slider up or down in the vertical scroll bar, and left or right in the horizontal scroll bar.

If the slider spans the entire length of the scroll bar, you are already looking at the whole drawing surface, such as in Full View or Reduced View, and you cannot scroll.

Exiting Key *Draw! Plus*

When you exit **Key *Draw! Plus***, you return to the directory from which you started.

If you are going on to Chapter 2 without exiting, you need to reset your screen to Full View and clear it of all elements.

To reset Key *Draw! Plus* to the default view:

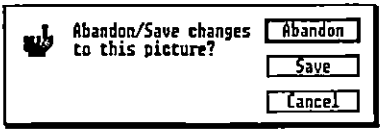
Choose **Full View** from the View tool pop-up menu.

To clear the screen using menu commands:

1. Choose the **Select All** command from the Edit menu.
   Selection frames appear around all the elements on your screen.
2. Choose the **Delete** command from the Edit menu, or press **[Alt] [E]**.
   All the elements disappear.

To clear the screen using the New command:

1. Choose the **New** command from the File menu.
   Key *Draw! Plus* displays the Abandon/Save alert.



Key *Draw! Plus* always displays this dialog when you edit, then choose **New** or **Quit** without saving changes.

2. Click on Abandon. A new UNTITLED screen is displayed. Note that you can click on Cancel to return to the drawing surface.

To exit Key *Draw! Plus*:

1. Choose the **Quit** command from the File menu, or Press **[Ctrl] [Q]** (hold down the **[Ctrl]** key while you press **[Q]**).
   Key *Draw! Plus* displays the Abandon/Save alert shown previously.
2. Click on Abandon. **Key *Draw! Plus*** quits and returns you to the directory from which you started.

What You Learned

You now know how to:

- start and quit **Key *Draw! Plus***;
- use the mouse;
- select elements, tools, and menu commands;
- draw lines and rectangles;
- move, copy, resize, delete, and undelete elements;
- use keyboard shortcuts;
- use dialogs;
- change the view of the drawing surface.

The next chapter shows you, step-by-step, how to: set up the workspace; use more of the drawing tools to create a picture; group and ungroup elements; change line width, color, and pattern; name and save your picture; and print your picture or display it on the screen.

Basic Drawing Techniques

This chapter shows you how to set up the workspace, draw a picture, save the file, and print.

The exercises in this chapter will take about half an hour to complete.

What is in this chapter:

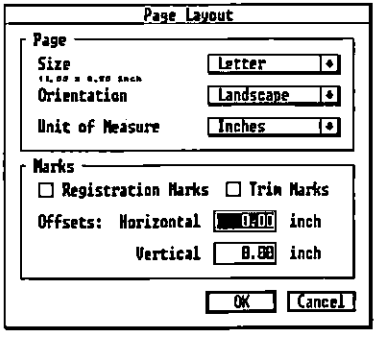
- setting the page layout
- setting up the workspace
- identifying the tools
- drawing a true square and circle
- using the Scale and Rotate commands
- saving your picture
- more about selecting elements
- grouping and ungrouping elements
- changing line width, line color, and fill color
- creating a fountain fill
- printing with PostScript
- printing with Output

Setting the Page Layout

It's good practice to set the page layout before you begin to draw. **Key *Draw! Plus*** is probably already set to the following defaults, but this exercise shows you how to use the Page Layout dialog.

To set the page layout:

1. Choose **Page Layout** from the File menu, or type **[Ctrl] [S]**. The Page Layout dialog appears.



> A shadowed field with an arrow indicates a pop-up menu.

2. In the Page Layout dialog, choose **Letter** in the Size pop-up menu.
3. Choose **Landscape** in the Orientation pop-up menu.
4. Choose **Inches** in the Unit of Measure pop-up menu.

   Click on **OK** or press ↵ to exit the dialog.

The drawing surface reflects the changes you made to the page layout.

Registration marks, trim marks, and offsets are described in Chapter 3 of the **Key *Draw! Plus*** User Reference Guide.

Setting up the Workspace

Most of the commands in the View menu are toggles that turn certain commands on and off.

> When an item is turned on, an arrow appears to the left of the command name in the View menu.

To turn on the item, you choose the command. To turn off the item, you choose the command again.

- You use the **Image** command to show and hide bit-image files when you are using the Autotrace tool.
- You can turn off the **Colors** and **Fountains** commands while you are editing complex pictures to make screen drawing faster, and to better see the outlines of your elements. Elements with fountain fills display "**Fo's**" when fountains are turned off. For this chapter, leave colors and fountains turned on.
- You can use the **Status Line** command to display the status line, which shows the default fill and line color, selected tool, number of selected elements, and other parameters depending on the tool that is selected. The default fill color is *hollow*; the default line color is black.
- The **Guide Lines** command displays a horizontal and a vertical line that intersect in the center of the workspace. You can drag the guide lines or use the **Set Guide Lines** command to change their position. You can use the guide lines to align elements; you can use the intersection as a rotation point.
- You can use the **Toolbox** command to turn off the toolbox to make more room in the workspace. While you are doing the exercises in this tutorial leave the Toolbox turned on.

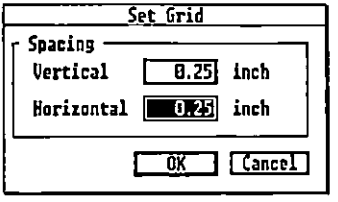
The following exercises use the remaining commands in the View menu.

Setting the Grid

The grid allows you to align objects precisely.

To set the grid:

1. Choose **Set Grid** from the View menu.
   The Set Grid dialog appears.



> Type directly into the highlighted field, or use the pop-up slider.

2. Under Spacing, enter **0.25** (inches) for the Vertical spacing.
3. Click in the Horizontal field to highlight it, and enter **0.25** for the Horizontal spacing.
4. Click on OK or press ↵ to close the dialog.
5. Display the View menu again and choose **Grid**.
   Dots appear on the screen at .25 inch intervals. The vertical and horizontal rows of dots cross at one inch intervals.

Turning on the Rulers

The rulers help you to accurately judge the size of your drawing.

To turn on the rulers:

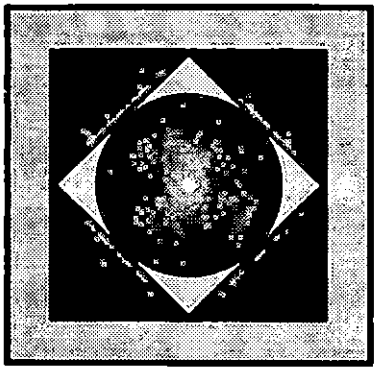
1. Choose **Rulers** from the View menu.
2. The rulers appear at the top and left sides of the workspace, in one-inch increments.

You are now ready to draw.

Using Basic Drawing Tools

In this section, you'll draw the picture on page 2-4 using these tools:

- Rectangle and Circle tools
- Scale and Rotate menu commands
- Line Width, Line Color, Fill Color, and Fountain tools



Correcting Mistakes

You can cancel certain commands by choosing **Undo** from the Edit menu.

If you are dissatisfied with the way an element appears, select the element and choose the **Delete** command from the Edit menu, or press[**Alt**] [E] to erase it and start over.

Drawing a True Square

When drawing measured lines or curves, it is helpful to use the **Snap to Grid** command, which causes elements to align with the nearest grid point. For this exercise, choose **Snap to Grid** from the View menu.

You start by drawing the largest square in the picture on page 2-5.

To draw a true square:

1. Select the Rectangle tool.

   The pointer becomes a crosshair.

2. Place the crosshair on the drawing surface next to the grid point located at 2" on the vertical ruler and 2" on the horizontal ruler. You will be drawing a four-inch square.

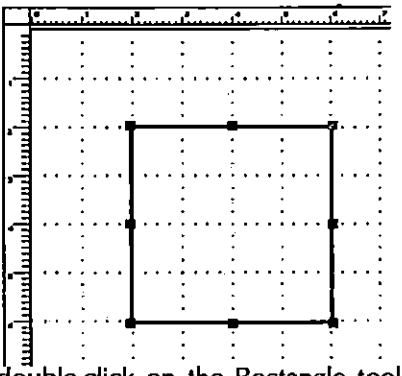
   > The **[Ctrl]** key constrains the rectangle to a square.

3. Hold down the **Ctrl** key and drag the crosshair away from the grid point *(please see facing page)*.

4. As you drag, an outline previews the square that you are drawing.

   Release the mouse button when the square is 4" tall by 4" wide, at the grid point located at 6" on the vertical and horizontal rulers.

Leave the square selected.



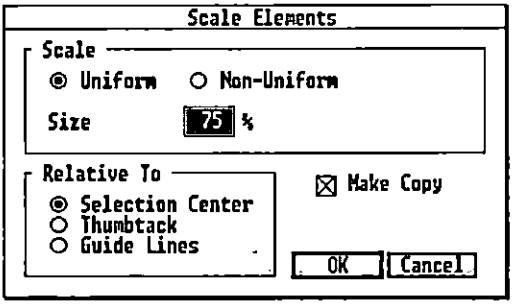
You can also double-click on the Rectangle tool and check Draw Squared in the Rectangle Options dialog to draw a true square.

Scaling the Square

You can now use the **Scale** command to make the smaller square.

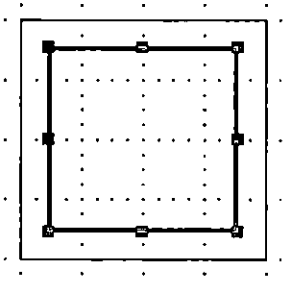
To make the smaller square:

1. Choose the **Scale** command from the Edit menu.
2. The Scale Elements dialog appears.



   Uniform and Selection Center are already turned on.
3. In the Size field, type 75 (%), or use the pop-up slider.
4. Click in the Make Copy box to turn it on. An X appears in the box.
5. Click on OK or press ↵ to exit the dialog.

   A copy of the square, scaled to 75% of its original size, appears inside the original square, with the selection frame around it. Leave it selected.



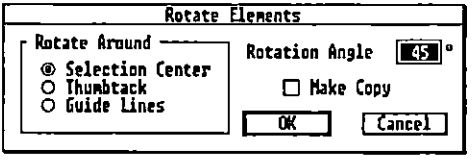
Rotating the Square

You can make a diamond with the Line tool or the Quill tool, but it is easiest to simply rotate a square. Make sure the second square is still selected.

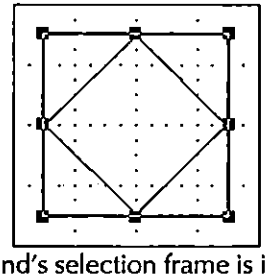
To make the diamond:

1. Follow steps 1 through 4 above to scale and copy the second square, but this time scale it to **70%**.

   You now have a third square selected, inside the other two.
2. With the new square selected, choose the **Rotate** command from the Edit menu.
   The Rotate Elements dialog appears.



3. Leave Selection Center turned on. Type **45** (degrees) in the Rotation Angle field. Do not make a copy.
4. Click on OK or press ↵ to exit the dialog.



Notice that the diamond's selection frame is in the same place as the selection frame for the second square.

You will now add the last element, the circle.

Drawing a True Circle

> The Circle tool draws ellipses and circles.

Next draw the circle inside of the diamond. To place the circle correctly, draw it from the *center*, instead of from the upper left starting point.

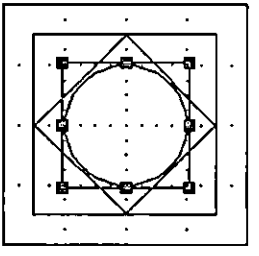
To draw a true circle from center:

1. Click on the Circle tool. The pointer becomes a cross.
2. Place the cross on the drawing surface at the *exact midpoint of all the polygons*—the grid point that intersects at 4" on the vertical ruler and 4" on the horizontal ruler.

   > **[Ctrl]**-drag draws true. **[Shift]**-drag draws from center.

3. Hold down the **[Ctrl]** *and* **[Shift]** keys, then drag the cross away from the center in any direction. You will be dragging to the inside edge of the diamond. Because the grid snap is on, you need to drag a small distance before you see the circle. As you drag, an outline previews the circle.
4. Release the mouse button when the circle is as close to the inside edge of the diamond as it can get, but before it snaps to the outside of (or gets bigger than) the diamond. (It might not quite touch the sides of the diamond on the screen.)

   The selection frame now surrounds the circle.



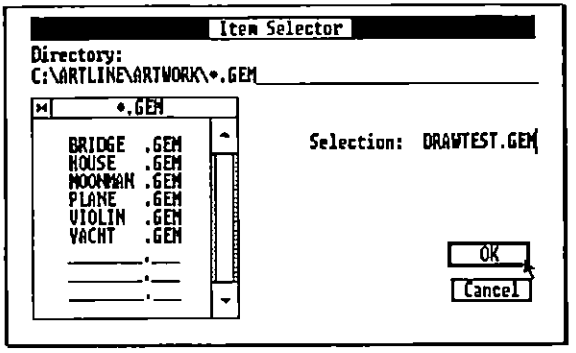
Saving Your Work the First Time

To save your picture in a file you must give it a name.

To name and save a picture:

1. Choose the **Save As** command from the File menu.

   The Item Selector dialog appears *(please see overleaf).*



The *Directory line* shows you the current drive, directory path, and a *wildcard file specification*, *.GEM, which means files with the .GEM filename extension are currently displayed in the *directory window*. **Key *Draw! Plus*** creates picture files with the .GEM extension only.

The directory window displays the names of directories (marked with a diamond) and files in the current directory, in this case, KEYDRAW!\ARTWORK. The cursor is on the *Selection line.*

2. Type a name for your picture, such as **DRAWTEST**.

   Key *Draw! Plus* automatically supplies the .GEM extension, so you do not need to type it. If you type the period, it is automatically placed before the filename extension. If you try to enter a different extension, **Key *Draw! Plus*** displays an alert asking you to re-enter the name.

3. Click on OK or press ↵ to exit the Item Selector. **Key *Draw! Plus*** displays a spinning ball while saving a file.

   Your picture is now in the file DRAWTEST.GEM in the KEYDRAW!\ARTWORK directory, and its name appears in the title bar of the **Key *Draw! Plus*** window. For detailed instructions on using the Item Selector, see Chapter 1 in the **Key *Draw! Plus*** User Reference Guide.

NOTE: The next time you want to save changes, you need only choose the **Save** *command from the File menu.* **Key *Draw! Plus*** *automatically saves your file under the name in the title bar.*
If you want to save a version under a different name, choose the **Save As** *command again, and give the picture a different name, such as DRAWTST2.GEM.*
If you want to revert to the last saved version, choose the **Abandon** *command from the File menu and do not save changes in the Abandon/Save alert.*

More About Selecting Elements

Elements are placed in a *stack*, in the order in which you create them, with the first-drawn element at the bottom of the stack, and the last-drawn element at the top of the stack.

For the next exercise, click on the Selector tool.

To practice selecting elements:

1. Click outside the design so that no element is selected.
2. Click in the circle to select the circle. The selection frame surrounds the circle. This is the top element.

   > The **[F4]** function key selects the next element down in the stack.

3. Press **[F4]** *on the function keypad* to select the next element down in the stack, in this case the diamond. The selection frame surrounds the diamond, which has the same boundaries as the smaller square.
4. Press **[F4]** again to select the next element down, in this case the smaller square. Notice that the selection frame appears in the same place. This is because the outer edges of the diamond are in the same place as the edges of the square.
5. Press **[F4]** again to select the outer square. The selection frame moves to the outside of the design.

   Pressing **[F4]** again de-selects the design, because there are no more elements under the large square.

Here are some rules for selecting elements:

- To select the top element of a stack, click on it.

  > **[Ctrl]** click selects the bottom element of the stack.

- To select the bottom element of a stack, place the pointer over the element, then press the **[Ctrl]** key while you click. When you start at the bottom, **[F4]** selects the next element toward the top of the stack.
- To select more than one element at a time, click on the first element, then **Shift**-click on the next and subsequent elements.
- To select more than one *overlapping* element at a time, click on the first element, then press **Shift-F4** to select additional elements.
- To select many elements, *drag* a selector box around the elements.

- To *de-select* one selected element in a group of selected elements, **[Shift]**-click on the element.
- To select all the elements on the drawing surface, choose the **Select All** command from the Edit menu. The Selector tool need not be selected to do this.

Practice selecting the elements in this stack until you feel comfortable with a few of the methods.

NOTE: When the selection frame for one element is in exactly the same place as the selection frame for another element, the selection frames seem to disappear. This is because they are actually two frames on top of one another and they cancel each other out. The elements are nevertheless selected. You can prove this by selecting all the elements, then dragging to move them. All the elements move.

Grouping Elements

When you group elements, the individual elements become one *grouped* element. Any change you make to a grouped element affects all the elements in the group. The individual elements cannot be modified until you ungroup the element.

To group elements:

1. Choose **Select All** from the Edit menu or type the keyboard shortcut **Alt-S**. Or, you can drag a selector box around the outside of the elements.

   All the elements in the picture are selected.
2. Choose **Group** from the Element menu or type the keyboard shortcut **[Alt] [M]** (for Make Group).
3. When the elements are grouped, their selection frames are replaced by a single frame around the picture.

Chapter 6 of the **Key *Draw! Plus*** User Reference Guide discusses the attributes of grouped elements in detail.

Changing the Line Width

It is easiest to change the line width of many elements at once when they are grouped.

For this exercise, make sure the now grouped element is selected.

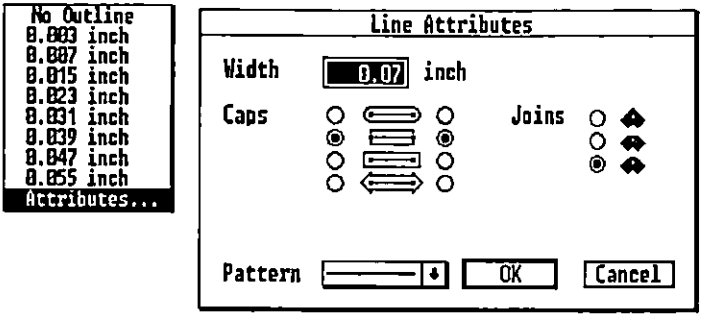
Make sure also that colors and fountains are turned on in the View menu. When colors are turned off, you cannot see a thick line.

To change the line width:

1. Click on the Line Width tool to display the pop-up menu.

   This menu provides line widths ranging from No Outline to a custom option in which you can enter your own line width.

2. Choose the **Attributes** command from the bottom of the menu. The Line Attributes dialog appears:



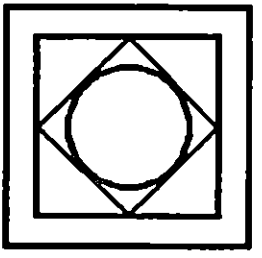
3. Type **0.07** (inches) in the Width field. (This is the smallest width that makes a visible difference in Full View on a VGA™monitor.)

4. You can press on the Pattern pop-up menu to peruse the available line patterns, but for this exercise leave it set to the solid line.

   Caps and Joins are discussed in Chapter 2 of the **Key *Draw! Plus*** User Reference Guide.

5. Click OK or press ↵ to exit the dialog.

   The element now looks like this:



Changing the Line Color

While the element is grouped, you can change the line color of all the lines at once. Make sure the element is selected.

To change the line color:

1. Click on the Line Color tool to display the color palette.
   - ➢ If you are using a monochrome monitor, you will see a palette containing shades of gray.
   - ➢ If you are using a color monitor, you will see a palette of colors.
2. Move the pointer over the colors. As a color is selected, a black border surrounds it, and *its name appears at the top of the color palette.*
3. Click on the color Blue. The palette disappears and the lines turn blue, (or a dark gray pattern in monochrome).

   Leave the element selected.

Ungrouping elements

To change the fill color of individual elements in the design, it is necessary to ungroup it.

To ungroup the design:

Choose the **Ungroup** command from the Element menu, or use the keyboard shortcut **Alt-B** (Break Group).

The selection frames appear around the individual elements. Note that you see parts of the double selection frame surrounding the diamond and the small square.

Adding Fill Color

Make sure the Selector tool is selected.

Click outside the design to de-select all the elements.

When you select the Fill Color tool, you will see a palette of gray shades on a monochrome monitor, and a palette of colors on a color monitor.

To color the design:

1. Click on the circle to select it.
2. Click on the Fill Color tool to display the color palette.
3. Click on Cyan Light -1. The palette closes, and the circle is filled with the color.

4. Press **[F4]** to select the diamond, and repeat steps 2 and 3 to color the diamond Yellow Light -1.
5. Press **[F4]** to select the smaller square, and repeat steps 2 and 3 to color it Cyan Dark +1.
6. Press **[F4]** to select the larger square, and repeat steps 2 and 3 to color it Magenta, or Magenta Light -3 if you are using a monochrome monitor.

The design now looks similar to the picture at the beginning of this chapter.

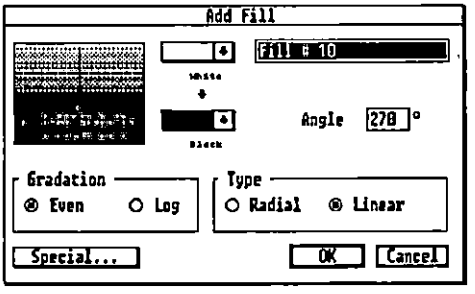
Creating a Fountain Fill

A *fountain* is a gradual blending of one color into another. **Key *Draw! Plus*** gives you some preset fountains from which to choose, or you can create your own.

To create a fountain fill:

1. Select the circle in the center of the picture.
2. Click on the Fountain tool to display the preset palette of fountains.
3. Click on **Add Fill** at the bottom of the palette.

   The Add Fill dialog appears.



4. Press on the bottom color box showing Black to display the pop-up palette of colors, move the pointer down to the arrow next to **more** to scroll through the palette, and highlight Cyan Light -1.

   Cyan now appears in the bottom color box, and the sample fill shows a fountain from Cyan to White.
5. Press on the White color box at the top and repeat step 3, but this time highlight Magenta.

   Magenta fills the top color box, and the sample fill shows a fountain from Cyan to Magenta.

6. Place the pointer on the arrow tip in the sample box and press. The pointer changes to a crosshair.
7. Drag clockwise or counter clockwise until the arrow tip is pointing to a corner. Notice that the number of degrees in the Angle field changes automatically as you drag.
8. Release the mouse button. The linear fountain fills the example box at the new angle.
9. Drag the pointing arrow to the opposite corner. The bottom and top colors reverse in order in the sample, but remain the same in the color boxes.
10. Under Type, click on Radial. The example shows a radial fountain fill made with the selected colors.
11. Under Gradation, click on Log (Logarithmic). The example shows a radial fountain fill with a logarithmic gradation.

    Chapter 12 of the **Key *Draw! Plus*** User Reference Guide describes the Special Postscript fill options you can set from this dialog.
12. Click on OK or press ↵ to exit the dialog.

    The new fountain fills the circle.
13. Press **[F4]** twice to select the smaller square.
14. Click on the Fountain tool to display the fountain list.

    Your new fill appears in the list, with the default name of **Fill # 10**.
15. Click on **Fill # 10** to color the smaller square with your new fountain. The diamond and circle are redrawn after the smaller square is filled.

The new fill remains associated with *this picture file*, and does not appear in the default **Key *Draw! Plus*** fountain palette that is loaded when you choose the **New** command, or when you restart **Key *Draw! Plus***.

Creating, loading, merging, and saving color files is described in Chapter 12 of the **Key *Draw! Plus*** User Reference Guide.

Saving Your Work

To save your picture under a new name:

1. Choose **Save As** from the File menu or type **Ctrl-M**.
2. When the Item Selector appears, type the new filename on the Selection line.
3. Click on **OK** or press ↵.

To save your picture under its existing name:

Choose **Save** from the File menu or type **[Ctrl] [V]**.

Key *Draw! Plus* displays the spinning ball while saving.

Printing Your Picture

Key *Draw! Plus* provides two ways to print your pictures:

- **PostScript** command
- **To Output** command

You can use the **PostScript** command to:

- print your picture directly to a PostScript printer;
- make color separations;
- output standard PostScript to a File, which creates a file that you can print from the operating system Print and Copy commands, or send to a phototypesetter;
- output the picture to Encapsulated PostScript File format (EPSF), which you can use to import into or print from other applications.

The **To Output** command starts the Output program. You can use Output to:

- print directly to a printer;
- make a list of files to print all at once;
- display files on the screen in a slideshow effect;
- make transparencies with a camera.

Chapter 3 of the **Key *Draw! Plus*** User Reference Guide describes the **PostScript** command extensively, and the **Key *Draw! Plus*** Utilities Guide describes the **To Output** command in detail.

If your computer is connected to a PostScript printer, you can follow the steps in the section "Printing from the PostScript Command" to print directly from that command.

You can use the **To Output** command to print to a PostScript printer, a non-PostScript printer, or to the screen.

If your computer is not connected to a printer, you can skip this section, or you can follow the instructions in the next section to display your picture on the screen.

The section entitled "PostScript Command" in Chapter 3 of the **Key *Draw! Plus*** User Reference guide tells you how to output your picture to a file that you can print on someone else's printer.

Printing from the Output application

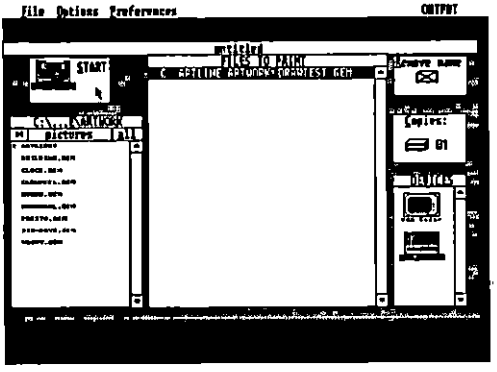
In this exercise, you will use the **To Output** command to print the picture you created in this chapter.

Be sure to save your picture before you begin. Otherwise, **Key *Draw! Plus*** displays the Abandon/Save alert, to which you must respond accordingly.

To start Output:

Choose **To Output** from the File menu or type the keyboard shortcut **[Ctrl] [U]**.

The Output program loads into memory and displays the Output screen.



The FILES TO PRINT window contains the name of the picture you just saved in **Key *Draw! Plus***.

The Pictures window is similar to the **Key *Draw! Plus*** Item Selector.

To select an output device:

The Devices window contains icons representing the screen and printer that you installed during Setup. The illustration above shows the PostScript printer icon in this window.

- If you have more than one printer installed, click on the icon representing the one you want to use.
- If you want to display on the screen, click on the screen icon. You do not need to set any screen options at this time.

Before you print on paper, you need to set the scaling and page size options, to ensure that your picture prints correctly.

To set the scaling options:

1. Click on the printer icon to highlight it.
2. Choose **Page scale** from the Options menu.
3. In the Printer Page Scale Options dialog, click on the **Scale to page** icon.
4. Click on OK or press ↵ to exit the dialog.

To set the page size options:

1. Choose **Paper Size** from the Preferences menu.

   In the Printer Preferences: Paper Size dialog:
2. Choose the paper size that matches the paper in your printer. Many printers use **Letter** size (8.5 x 11.0 inches.)
3. Press ↵ to exit the dialog. You are now ready to print.

To print to the screen or printer:

Click on the **Start** button in the upper left corner of the Output window.

Output begins printing to the output device you selected.

- To exit from a screen display, press the **Esc** (Escape) key.
- To return to **Key *Draw! Plus***, choose the **To Key *Draw! Plus*** command from the File menu. You can abandon changes to the .LIS file (a file you can create that contains the names of the pictures listed under Files to Print.)

Output quits and **Key *Draw! Plus*** reloads and displays your picture once again.

Printing from the PostScript Command

It is not necessary to save your file before choosing the **PostScript** command, but it is recommended.

To print with PostScript:

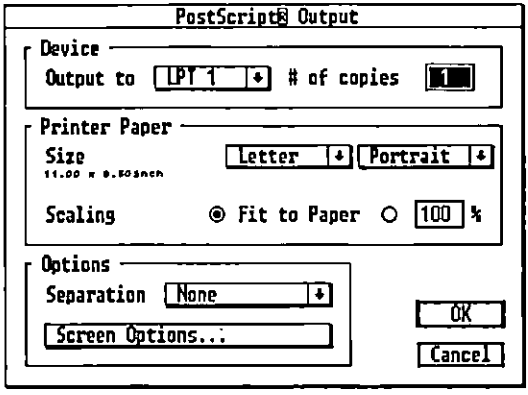
1. Choose the **PostScript** command from the File menu.

   The PostScript® Output dialog appears *(please see overleaf)*.

In the Device section:

2. Next to Output to, press on the pop-up menu to display a list of printer ports. Choose the port name to which your printer is attached.
3. Next to # of copies, leave 1 selected, or enter a different number.

In the Printer Paper section:



4. Next to Size, choose a paper size that matches the paper in your printer.
5. Choose Landscape from the second pop-up menu.
6. Click on Fit to Paper.

   The Options section is explained in detail in Chapter 3 of the **Key *Draw! Plus*** User Reference Guide.
7. Click on OK or press ↵ to exit the dialog.

What You Learned

You now know how to:

- set the page layout;
- set up the workspace;
- use the grid;
- draw true squares and circles;
- select multiple elements and elements in stacks;
- save your pictures;
- use the Scale, Rotate, Group, and Ungroup commands;
- use the Line Width, Line Color, Fill Color, and Fountain tools;
- print your pictures.

The next chapter shows you how to use all of the commands in the Combine menu to create interesting effects with text and elements. These are some of **Key *Draw! Plus***'s most powerful features. The exercises are designed to teach you the concepts through simple examples.

Working With Text and Other Elements

This chapter shows you how to use more of the tools and the commands in the Combine menu to create special effects with a combination of text and elements.

All of the commands and tools are fully described in the **Key *Draw! Plus*** User Reference Guide.

The commands in the Combine menu are described in Chapter 8 of the **Key *Draw! Plus*** User Reference Guide.

What is in this chapter:

- blending elements
- placing text along a path
- masking elements
- converting text to curves
- merging elements
- using the rolling pin
- rotating elements
- using the thumbtack
- flipping elements
- shadowing text

Preparing the Workspace

For all of the exercises in this chapter:

- Start **Key *Draw! Plus***, or choose the **New** command from the File menu to start with a new drawing surface.
- Choose **Full View** from the View tool pop-up.
- Choose **Page Layout** from the File menu; set the Page Size to Letter, the Orientation to Landscape, and the Unit of Measure to Inches.
- Turn on **Colors** and **Fountains** in the View menu.
- Turn on **Rulers** in the View menu.
- Turn *off* **Snap to Grid** in the View menu.
- Choose **Preferences** from the Options menu and set the Redraw Speed to Quality.

- If you like working with the status line, turn it on in the View menu, but it is not necessary for these exercises.
- After each exercise, clear the screen and keep the same settings listed here. If you like the examples you make in this chapter, you can save them.

Each exercise in this chapter will take about ten or fifteen minutes to complete.

Blending Elements

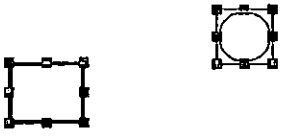
Key *Draw! Plus* lets you blend one shape and its color into another. This exercise shows you how to use the **Blend** command to do this.

To blend two elements:

1. Draw a rectangle in the bottom left corner of the screen, about 1.5 inches wide and 1 inch tall.

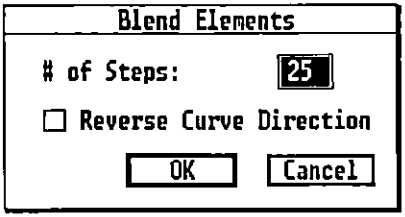
   > You cannot blend elements containing fountains.

2. Click on the Fill Color tool to display the color palette and choose Magenta. Do not use the Fountain tool.
3. Draw a circle in the upper right corner of the screen, about 1 inch in diameter.
4. Color the circle Cyan.
5. Select the square, then [**Shift**]-click to select the circle.

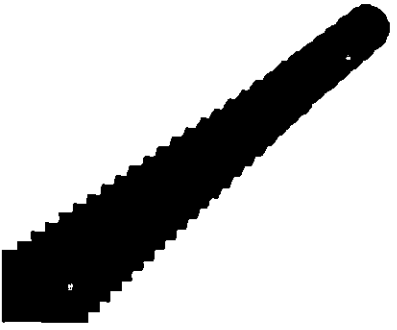


> **Key *Draw! Plus*** blends from the bottom element on the stack to the top element.

6. Choose the **Blend** command from the Combine menu. The Blend Elements dialog appears.



7. In the # of Steps field, type **25**.
8. Click on **OK** or press ↵ to exit the dialog.
   The square blends into the circle, and magenta gradually blends into cyan, in 25 steps.



9. While the new element is selected, choose the **Split Element** command from the Combine menu.

The square and circle are once again separate. You can repeat steps 6 through 8 to blend them again.

NOTE: To redisplay the Blend Elements dialog and modify the number of steps, use the Selector tool to double-click in the selection frame of the blended element.

If another tool is selected, you can hold down the **[Alt]** *key while you double-click in the selection frame, to redisplay the Blend Elements dialog.*

You can save this picture, or simply clear the drawing surface for the next exercise.

To clear the drawing surface:

Choose the **New** command from the File menu.

If you made changes and did not save your picture, respond appropriately to the Abandon/Save alert.

Placing Text Along a Path

Key *Draw! Plus* lets you place text along a selected path that you create, for example, a curve or a circle.

In this exercise you will make this picture:

Drawing the Path

> If you start drawing with the Quill tool, choose New and start over. Chapter 4 teaches you how to use the Quill tool.

To start, you will use the Sketch tool to make the path. The Sketch tool lets you draw freely, as if you were sketching with a pencil.

To draw the path:

1. Select the Sketch tool. The pointer changes to a cross. *If you see a crosshair in a circle, you have selected the Quill tool.* Select the Sketch tool instead.
2. Place the cross on the grid point at the intersection of 3 on the vertical ruler and 1 inch on the horizontal ruler.
3. Press the mouse button down and begin dragging to make the downward curve, and then the upward curve.
4. Release the mouse button at the end of the curve, on the right side of the drawing surface.

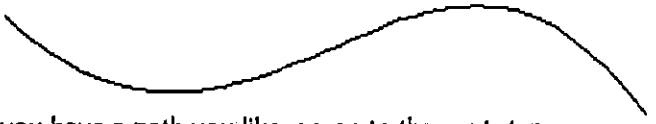
> When you release the mouse button, the line disappears briefly while **Key *Draw! Plus*** constructs the curve.

The spinning ball is displayed, and then the line appears on the drawing surface, surrounded by the selection frame.

This might take some practice. If you are not satisfied, delete the line and start over. It is not necessary for your path to look just like the path in the picture.

Chapters 4 and 5 show you how to draw curves with the Quill tool and edit them with the Plane tool.

Remember that you can move the line when it is selected.



When you have a path you like, go on to the next step.

5. Select the Line Width tool and choose **0.078** inch from the pop-up menu. The line becomes wider to reflect the new setting.

You can save your work to this point, then continue with the next series of steps.

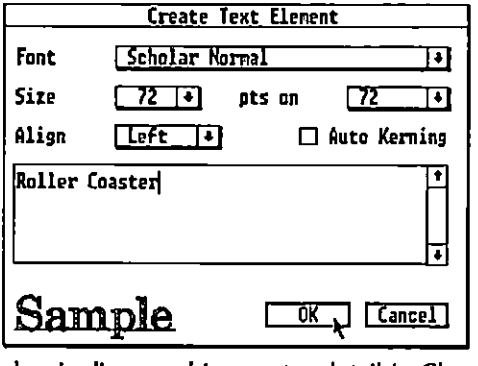
NOTE: It is a good idea to save your picture at the end of a series of steps that is followed by another series of steps. This way, if you do not know how to fix an error, you can revert to the last saved version and re-start the next series without beginning the whole exercise from scratch.

Creating the Text

Key *Draw! Plus* provides a variety of typefaces, styles, and sizes for you to use when working with text. This exercise shows you how to use the Text tool to create text.

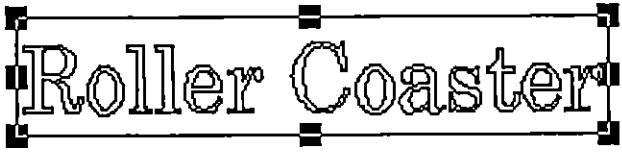
To create the text:

1. Click on the Text tool to select it. The pointer changes to an I-beam text cursor.
2. Move the text cursor onto the drawing surface, away from the path you just made, and click. The Create Text Element dialog appears. Fill it out as shown.



This dialog is discussed in greater detail in Chapter 2 of the **Key *Draw! Plus*** User Reference Guide.

3. Press on the Font pop-up to display a list of fonts, move the pointer down until **Scholar Normal** is highlighted, then release the mouse button.
   "Scholar Normal" now appears next to Font in the dialog. Note the word "Sample" under the *Text window.* Sample is always displayed in one point size, but the typeface changes to match the font showing in the Font field.
4. Press on the Size pop-up and choose **72** (points). The number 72 appears in the Size field. (Changing the text size is unnecessary, but it makes it easier to read the text.)
5. Type **Roller Coaster** in the text window. If you make a mistake, you can use the Backspace, Delete, and arrow keys to move the cursor and correct the mistake.
   Do not press Enter after you type the line, because that will move the cursor to the second line in the text window, instead of exiting the dialog.
6. Click on OK to exit the dialog. The words "Roller Coaster" appear on the drawing surface in 72 point Scholar Normal, and are surrounded by the selection frame.



To edit the text, select it, then double-click to redisplay the Create Text Element dialog.

Notice that the text is outlined. **Key *Draw! Plus*** lets you fill text with colors and fountains, and set the line color and width.

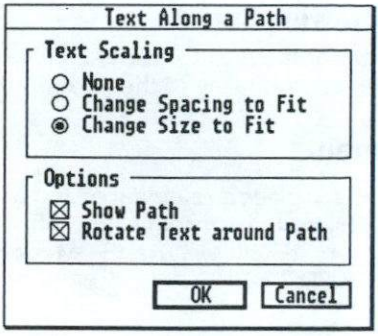
7. With the text selected, click on the Fill Color tool and select Light Gray. The text is filled with Light Gray.

Combining the Text and Path

To complete the placement of the text, you must select the text and the path, then use the **Text Along Path** command in the Combine menu.

To combine the text and path:

1. Click on the Selector tool and drag a selector box around the path and the text.
2. Choose the **Text Along Path** command from the Combine menu. The Text Along a Path dialog appears (see facing page):



3. Under Text Scaling, click on **Change Size to Fit**.
   - ➢ Change Spacing adds or deletes space between characters, but does not change the point size.
   - ➢ Change Size changes the point size to fit the path.
4. Under Options, click on **Show Path**.
   - ➢ Show Path includes the path with the element.
   - ➢ Rotate Text around Path orients each character according to the curve or angle of the path. This is the default. Leave it checked.

   When this option is not checked, the characters follow the path, but are all upright.
5. Click on OK or press ↵ to exit the dialog.
   The text is combined with the path, and the selection frame surrounds the combined element.

> To re-display the Text Along a Path dialog, double-click on the selected element.

The best way to see the differences in the options is to re-display the Text Along a Path dialog and try them.

Splitting Text Along a Path

While the combined element is selected, you can choose the **Split Element** command from the Combine menu to separate them again.

Selecting with the Alt key

Most of the time you can select an element without first clicking on the Selector tool.

- ❒ To select an element when a different tool is selected, hold down the **[Alt]** key while you click on the element.
- ❒ To select a second element, press **]Alt]** while you **[Shift]**-click.

Clearing the Drawing Surface

To clear the screen for the next exercise, choose **New** from the File menu and respond appropriately to the Abandon/Save alert.

Masking Elements

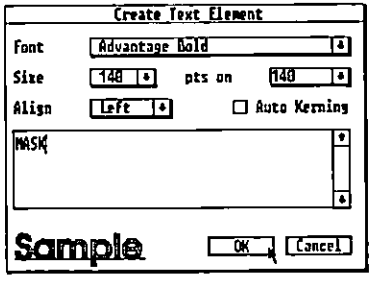
Key *Draw! Plus* lets you place an element on top of a particular pattern or design so the design shows through. This effect is called *masking*. In the following exercise, you will use the **Mask** command to make this picture:

Creating the Text

You begin by making the text to contain the design. The text, in this case, is the *mask element*. The design is the *mask background*.

To make the text:

1. Click on the Text tool, then click in the center of the drawing surface to display the Create Text Element dialog. Fill it out as shown.



2. In the Font pop-up, choose **Advantage Bold**.
3. In the size pop-up, choose **Custom**, type **140** points in the New Size field, then click on OK.
4. In the text window, type **MASK**. Use all capital letters.

5. Click on OK to exit the dialog. The word "MASK" appears on the drawing surface in 140 point Advantage Bold.

Converting Text for Masking

In order to use text as a mask element, you must change it into a single non-text element. To do this, first convert it to curves, and then merge it into one element.

To convert text to a single non-text element:

1. Select the text. The selection frame surrounds it.

> Once you convert text to curves, you can no longer edit it as text.

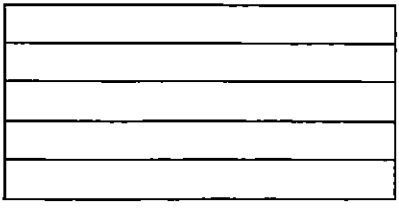
2. Choose the **Convert to Curves** command from the Combine menu. The text is now grouped. You cannot use grouped text as a mask element.
3. Choose the **Ungroup** command from the Element menu. A selection frame surrounds each letter.
4. Choose the **Merge Elements** command from the Combine menu. A selection frame surrounds the now merged element—a single graphic element equivalent to elements drawn with the other tools.

NOTE: You can use the **Split Element** *command to split merged elements. When you split merged text, letters such as "i" and "o" that are composed of two parts are split into separate elements.*

Now you are ready to make the pattern to display inside the text—the mask background.

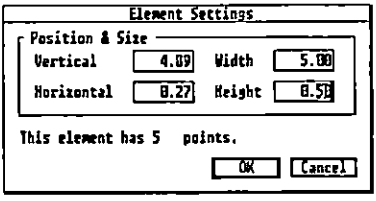
Making the Mask Background

The mask is made from five rectangles arranged in a column. Later, each is filled with a different color, and all five are set to No Outline. Before you add color and remove the outline, the result looks like this:



To make the design for the mask element:

1. Click on the Rectangle tool, then draw a rectangle about 0.5 inch high and 5 inches long. Leave the rectangle selected.
2. Choose the **Element Info** command from the Element menu. The Element Settings dialog appears.



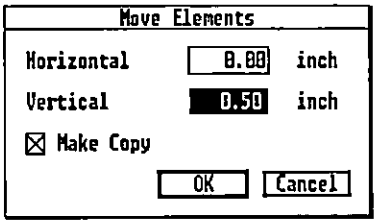
   ➢The Vertical and Horizontal fields show the ruler settings for the upper left corner of the rectangle.

   ➢The Width and Height fields show the width and height of the rectangle.

   You can use these fields to set an element to an exact measurement.

   (The number of points refers to the number of anchor points, which are discussed in Chapters 4 and 5.)

3. In the Width field, type **5.0**. In the Height field, type **0.5**. This sets the rectangle to exactly 0.5 inch by 5 inches.
4. Click on OK or press ↵ to exit the dialog.
   The rectangle adjusts to the exact measurement.
5. Choose the **Move** command from the Edit menu. The Move Elements dialog appears.



   ➢Leave the Horizontal field set to 0.0.

   ➢In the Vertical field, type **0.5** inches.

   ➢Click on Make Copy.

   ➢Click on OK to exit the dialog.

   The copy appears under the original. Leave it selected.

6. Choose the **Repeat** command from the Edit menu, or type **[Alt] [F1]**. A third rectangle appears under the second one.

7. Choose the **Repeat** command two more times, to make a total of five rectangles.

   The rectangles should be touching each other, flush against each other, making a vertical column.
   Now you are ready to color the rectangles. This is a good time to save your work so far.

Coloring the Rectangles

A mask background cannot contain a fountain. It can, however, contain a blend. For this background you color each rectangle individually. You will be using the Selector.

To color the rectangles:

1. Click on the top rectangle to select it.
2. Click on the Fill Color tool and choose Cyan Light -1.
3. Color the second rectangle Cyan Dark +1.
4. Color the third rectangle Magenta.
5. Color the fourth rectangle Blue.
6. Color the bottom rectangle Blue Dark +2.

   Select all the rectangles and choose **Group** from the Element menu.
   The rectangle is colored and grouped, but it still has black lines (or whatever default line color is current in the Line Color palette) around all the component rectangles.
7. With the grouped rectangle selected, click on the Line Width tool and choose **No Outline** from the pop-up. This turns off the outlines around the rectangles.

Resizing the Text

You should now make sure the text fits inside the colored rectangle, and that it includes all of the colors, before you combine the text with the rectangle.

To check the text:

1. Drag the text so that it is centered inside the rectangle group. Because you made the text first, it is underneath the rectangle, but you can still see its selection frame.

   > You can use **Ctrl**-click to select the element on the bottom of the stack.

2. With the text selected, choose the **Bring to Front** command from the Element menu. You can now see the text.

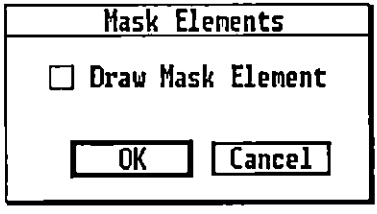
3. Adjust the text so it includes all the colors, but is not larger than the colored rectangle.
   If it is too small to include all the colors, or too large, you can drag one of the object handles on the selection frame to change the size.
   ➢The middle handles change the height or width.
   ➢The corner handles change the height and width.

Combining the elements

You are now ready to combine the elements into the mask.

To create the mask effect:

1. Drag a selector box around both elements to select them. Selection frames surround both elements.
2. Choose the **Mask** command from the Combine menu. The Mask Elements dialog appears.



When Draw Mask Element is checked, you can see the outline of the text.

3. Click on OK or press ↵ to Exit the dialog.

The text now appears in the five colors of the rectangle, and you have created the mask effect.

You can double-click on the selected mask to re-display the Mask Elements dialog.

To restore the masked element into its original components, choose the **Split Elements** command from the Combine menu.

Choose the **New** command and respond appropriately to the Abandon/Save alert.

Merging Elements

Key *Draw! Plus* lets you merge two or more elements into a single element.

- When there are an odd number of layers overlapping, the areas where the original elements overlap become solid.

- When there are an even number of layers overlapping, the areas where the original elements overlap become *hollow.*

NOTE: Hollow means that the object has no fill color, so you can see through it to whatever is underneath. This can be other fill colors or lines, or the drawing surface on your screen, which ultimately represents the film or paper on which you print.

You have already used the **Merge Elements** command to merge text into a single element.

Here is a simple exercise to show you the effect of merging three elements—a large rectangle, a circle, and a smaller circle inside the first. You will make this picture:

There are many ways to draw and color the lines and curves in this picture, but merging is the simplest way to do it.

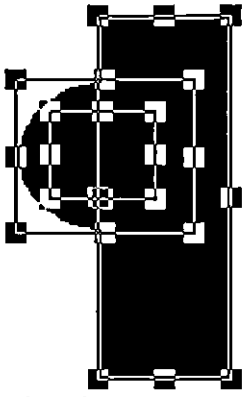
To merge three elements:

1. Draw a rectangle like the one in the picture.
2. Draw the larger circle, about the same size as the one in the picture. Make sure it overlaps the rectangle about half way.
3. Draw the smaller circle inside the larger circle, also overlapping the rectangle half way.

> Drag with the Selector tool, or press **Shift-F4** to select overlapping elements.

4. Select all three elements, then click on the Fill Color tool and select Black. All three elements are now black *(see overleaf).*
5. While the three elements are selected, choose the **Merge Elements** command from the Combine menu.

The three elements are combined into a single merged element.



To clear the drawing surface for the next exercise, choose the **New** command from the File menu and respond appropriately to the Abandon/Save alert.

Using the Rolling Pin with Text

Key *Draw! Plus* lets you use the Rolling Pin to skew or distort elements. You can create interesting effects with text, place diagonally oriented colors on a masking background, or create other pictorial effects.

In this exercise, you will use the Rolling Pin on text to make something like this picture:

Creating the Text

You start by creating the text.

To create the text:

1. Click on the text tool, then click in the drawing surface to display the Create Text Element dialog.
2. Fill out the dialog like this:

➢ Choose a font from the Font pop-up, or leave the default font selected.

➢ Choose **72** points from the Size pop-up, so the text will be large enough to see the effects easily.

➢ Type **Rolling Pin** in the text box.

3. Click on OK to exit the dialog.
   The text appears on the drawing surface.
4. With the text selected, click on the Fill Color tool and choose a color from the color palette. The text is colored.
5. Click on the Line Color tool, and choose another color for the outlines around each letter.

Converting Text to Curves

To use text with the Rolling Pin, you must first convert it to curves.

To convert the text to curves:

1. Select the text if it is not already selected.

   Choose the **Convert to Curves** command from the Combine menu. The text changes to curves.

Using the Rolling Pin

Now you can use the Rolling Pin to skew the text like the picture.

To skew the text:

1. Click on the Rolling Pin tool.
2. Place the pointer over the handle in the *upper right corner* of the selection frame.
3. Drag the handle diagonally about one inch toward the upper right corner of the screen.
   The selection frame extends out at an irregular angle, indicating the degree to which the text will be skewed.
   The text now looks something like the picture at the beginning of this section.

You can experiment with the Rolling Pin to learn its effects.

- You can drag a corner handle vertically, horizontally, or diagonally. Dragging a corner handle diagonally skews the text in two directions at once—for example, up and to the right, or down and to the left.
- You can drag midpoint handles horizontally or vertically, but not diagonally.

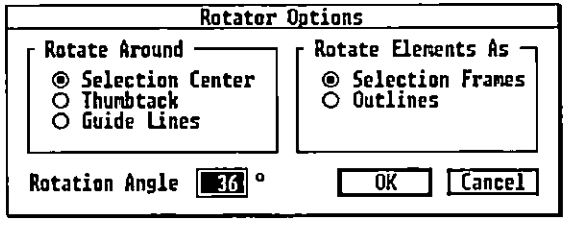
Rotating Elements

Key ***Draw! Plus*** gives you several ways to rotate elements. You have already used the **Rotate** command to rotate a square in Chapter 2. This section shows you how to use the Rotator tool and the Thumbtack to rotate elements. In this exercise you first practice rotating this ellipse:

Using the Rotator Tool

To rotate an ellipse:

1. First, draw a horizontal ellipse about 4.5 inches long and 0.5 inch high in the center of the workspace.
2. You can use the **Element Info** command to precisely set the measurement if you like. Leave the ellipse selected.
3. Double-click on the Rotator tool to display the Rotator Options dialog.



➢ Under Rotate Around, click on Selection Center, if it is not already selected.

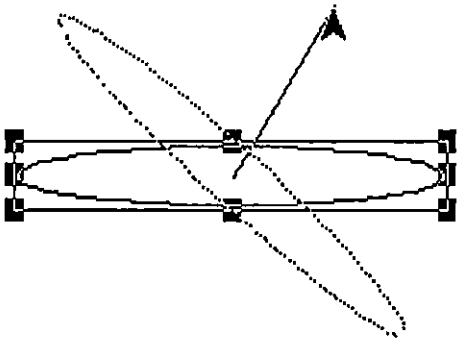
➢ Selection Center rotates an element around the center of its selection frame.

➢ In the Rotation Angle field, type **36** (degrees). This means the element can only be rotated in increments of 36 degrees. (When this field is set to 0° you can rotate an element freely.)

➢ Under Rotate Elements As, click on either choice.

➢ Selection Frames displays the element's selection frame as you rotate it, and draws quickly.
Outlines displays the element's outline as you rotate it, and can take longer to draw.

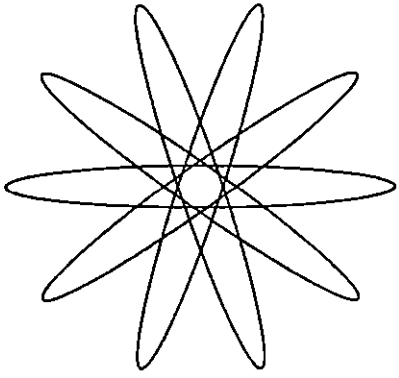
4. Click OK or press ↵ to exit the dialog.
   The Rotator Options are now set.
5. Click on the Rotator tool to select it. The pointer changes to an arrowhead.
6. Move the pointer to just above the top middle handle of the selection frame. (The pointer does not have to be on top of the ellipse or the handle to rotate it.)
7. Press down on the mouse button. A line appears between the center of the selection frame and the pointer.
8. Drag the line clockwise until a new selection frame or outline appears, then release the mouse button.



   The ellipse snaps into the new position.
   Note that the new selection frame or outline appears only after you drag the line clockwise (or counter-clockwise) at least 36 degrees.
9. Practice doing this until the ellipse is horizontal again. Make sure the ellipse is selected.

> To de-select the ellipse, click on the Selector tool, then click outside the ellipse.

Now you can use the Rotator tool to copy and rotate, to make this picture *(please see overleaf)*:



You can also use the **Rotate** menu command (with Make Copy turned on) to accomplish the same thing, but for this exercise use the Rotator tool.

To rotate and copy the ellipse:

1. Repeat steps 5 through 7 above, but this time press the **Shift** key while you drag the line, to copy and rotate the ellipse. A second ellipse appears in the new position.
2. **[Shift] drag** three more times, or choose the **Repeat** command from the Edit menu three times, until you have a total of five ellipses rotated around center, as shown in the picture.

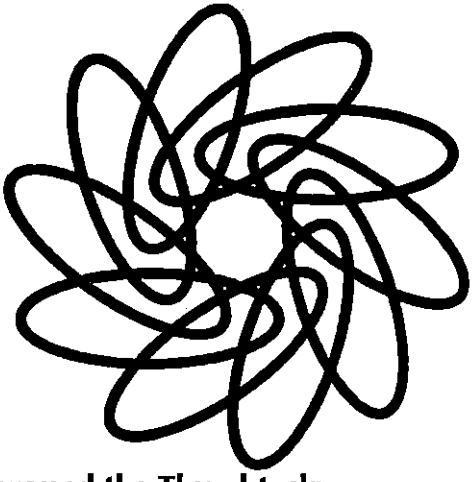
The remaining steps in this sequence are to remind you about coincident selection frames.

3. Click on the Selector tool, then select each ellipse individually. Because the selection frames for two pairs of the ellipses are in exactly the same place, it looks like two ellipses are selected. The status line shows you that one ellipse is selected.
4. Choose **Select all** from the Edit menu.
   Notice that a selection frame appears briefly around each element and ultimately appears around only the horizontal ellipse. This is because the selection frames for the other two pair cancel each other out.
5. Choose **Group** from the Element menu. The selection frame surrounds the entire design.
   Move this picture to one side of the drawing surface so you can compare rotating around the center to rotating with the Thumbtack.
   You are now ready to learn to use the Thumbtack to set a rotation point.

Using the Thumbtack

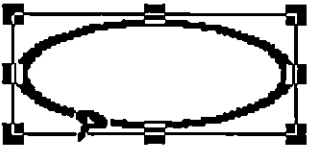
The Thumbtack lets you rotate an element around a specific point other than the element's center.

You can also rotate an element around the intersection of the guide lines. In this exercise you will make this picture:



To rotate around the Thumbtack:

1. Draw another ellipse, this time about 2.5 inches long and about 1 inch high. Again, you can use the **Element Info** command to set precise measurements.
2. Click on the Line Width tool and choose **0.078** inch from the pop-up menu. This makes the outline of the ellipse easier to see.
3. Double-click on the Rotator tool to display the Rotator Options dialog, select Thumbtack, then click on OK.
   The Rotator is now set to rotate around the Thumbtack.
4. Click on the Thumbtack tool.
5. Move the pointer to a little below and left of center of the ellipse, as shown in the picture, then click to place the Thumbtack on the drawing surface.

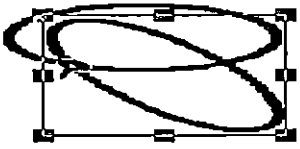


➢To move the Thumbtack, click on it while the Thumbtack tool is selected. It disappears. Click again where you want to place it. It reappears.

➢To remove the Thumbtack, click on it while the Thumbtack tool is selected.

Make sure the ellipse is still selected.

6. Click on the Rotator tool.
7. Press the **[Shift]** key while you drag the rotation line clockwise at least 36 degrees, then release the mouse button.



A copy of the ellipse appears as before, but this time it is offset from center and is rotating around the Thumbtack.

8. **[Shift]** drag or use the Repeat command in the Edit menu to repeat step 7 eight more times, to complete the circle of ten ellipses.

If you want to group the ellipses, choose **Select All** from the Edit menu, **[Shift]**-click on the first picture to de-select it, then choose **Group** from the Element menu.

You are now ready to save or abandon changes to clear the drawing surface for the next exercise.

Creating a Mirror Effect

You can use the Flipper tool to flip elements or flip and copy elements at an angle you control.

In this exercise, you copy and flip to make this picture.

To create the text:

Start by creating the text.

1. Click on the Text tool, then click in the center of the drawing surface and fill out the Create Text Element dialog like this:

➢ Choose **Advantage Bold** from the Font pop-up menu.

➢ Choose Custom from the Size pop-up and type **140** (points), then click on OK.

➢ Type **MIRROR** in all capital letters in the text window.

➢ Click on OK to exit the dialog. Leave the text selected.

2. Click on the Selector tool, place the pointer inside the selection frame, press until you see the hand, and move the text to the center of the workspace.

To flip and copy the text:

1. Click on the Flipper tool.
2. To show **Key *Draw! Plus*** a line to flip an element across, you drag a *flip line*. Place the pointer on the bottom line of the text, approximately in the center (in this case, between the two R's).
3. Press the **Shift** key while you drag horizontally. The flip line extends from the pointer in two directions. When the flip line is long enough, a selection frame appears showing where the copy will be placed.
   If you don't like the position of the preview, make the flip line shorter. When the preview disappears, release the mouse button. **Key *Draw! Plus*** displays an alert stating the flip line is too short. Click on OK and start over.
4. When the preview is visible, release the mouse button.
   The copy appears in a mirror image under the original.

To color the design:

1. Select the original word, click on the Fill Color tool, and color it Black.
2. Select the mirrored second word, click on the Fill Color tool, and color it Light Gray.

To clear the drawing surface for the last exercise in this chapter, choose the **New** command from the File menu and respond appropriately to the Abandon/Save alert.

More Special Text Effects

This exercise shows you how to make this picture by creating text, filling it with a fountain, and then creating a shadow effect.

Creating the Text

First, you need to create the text.

To create the text:

1. Click on the text tool, and then click in the center of the drawing surface to display the Create Text Element dialog.
   - ➢ Choose **Advantage Bold** from the Font pop-up.
   - ➢ Choose **Custom** from the Size pop-up, type **140** (points) in the New Size field, and click on OK.
   - ➢ Type **SHADOW** in the text window. Use all capital letters.
   - ➢ Click on OK to exit the dialog.

   The text appears on the screen with the selection frame around it. Leave it selected.
2. Click on the Selector tool, place the pointer inside the selection frame, press until you see the hand, and move the text to the center of the drawing surface.
3. Click on the Fountain tool to display the Fountain list, and select one of the preset fountains.
   The text fills with the fountain. Leave the text selected.
4. Choose the **Duplicate** command from the Edit menu. The duplicate appears below and to the right of the original, with the selection frame around it. Because you made it last, the duplicate overlaps the original. Leave it selected.
5. Click on the Fill Color tool to display the color palette, and select Black. The duplicate fills with black.
6. Choose the **Send to Back** command from the Element menu. The picture now looks like this:

   The black duplicate is now in back of the original, or on the bottom of the stack. Leave it selected.

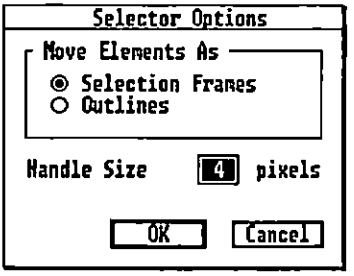
This is a good time to set the Selector tool options to move the element as an outline instead of as a selection frame.

Setting Selector Tool Options

You can set Selector tool options to let you move objects more precisely.

To set Selector tool options:

1. Double-click on the Selector tool.
   The Selector Options dialog appears.



   The choices are:
   - Move Elements As Selection Frames means you see just the rectangular outline of the selection frame when you move an element. This is the fastest method.
   - Move Elements as Outlines means you see the actual outline of the object you are moving, which can take longer to draw, but allows you to place objects more accurately.
   - Handle Size refers to the number of *pixels* in a handle. You can change this value if, for example, you want to make handles larger.
2. Click on Outlines.
3. Click on OK or press ↵ to exit the dialog.

Moving the Duplicate

You can now easily perform the final step of the design, which is to move the shadow into place.

To move the shadow:

1. Click on the Selector tool, if it is not already selected.
2. Place the pointer inside the selection frame of the black copy, and move it up and to the left, to its final location as shown in the completed picture. Because the Selector is now moving elements as outlines, it is easier to see exactly where to place the duplicate. It might take several moves to place the black copy exactly where you want it.
   The result now looks similar to the picture.

What You Learned

You now know how to:

- blend elements;
- create, size, and move text;
- place text along a path;
- mask elements;
- merge elements;
- flip elements;
- rotate elements;
- use fountain fills with text;
- shadow text.

The next chapter shows you how to use the Quill tool to draw precise lines and curves.

Drawing Lines and Curves with the Quill

This chapter shows you step-by-step how to use the Quill tool to draw line segments, angles, and curves.

When you want to draw a single line, it is easiest to use the Line tool. When you want several connecting line segments, such as in a polygon, or when you need to fill an area created by line segments, it is more efficient to use the Quill tool.

You can use the Sketch tool to draw the same curves as you draw with the Quill tool, but they will probably not be as smooth. You have already used the Sketch tool to create a curved segment in the section "Placing Text Along a Path" in Chapter 3.

Chapter 5 shows you how to use the Plane tool to edit lines and curves.

The exercises in this chapter will take about half an hour to complete.

What is in this chapter:

- drawing line segments
- drawing polygons
- drawing simple curves
- drawing compound curves
- adding a line to a curve
- adding a curve to a line
- changing the direction of a tangent line
- tracing an ellipse

For all the exercises in this chapter:

- Choose the **Preferences** command in the Options menu and set Redraw Speed to Quality.
- Choose the **New** command from the File menu to clear the drawing surface.
- Turn off **Colors** in the View menu.
- Turn on **Rulers** in the View menu.
- Choose **Set Grid** from the View menu, and ensure that vertical and horizontal spacing is set to 1 inch.
- Turn on **Grid** in the View menu.
- Turn on **Snap to Grid** in the View menu.
- Click on the View tool and choose **Full View**.

In this chapter you make small sample line segments and curves to learn how to use the Quill tool. You do not need to save any of the pictures; you can if you want to.

After each exercise you can choose **New**, unless you are directed otherwise.

Drawing Line Segments and Polygons

This section shows how to use the Quill to:

- draw line segments
- draw polygons

To draw a line segment:

You click on the beginning and endpoints of the line and **Key *Draw! Plus*** draws the line between the two points.

1. Select the Quill tool and move the pointer onto the workspace. The pointer changes to a crosshair (cross within a circle).
2. Click in the workspace. **Key *Draw! Plus*** places a small hollow box at the point where you clicked. This is the first *anchor point* of the line. It marks where the line begins.
   The crosshair becomes a plain cross to indicate that the Quill is active, and that you have started to draw.
3. Click at the point where you want the line to end. A second hollow box appears, marking the second anchor point, and **Key *Draw! Plus*** draws the line between the two points.

   > **Key *Draw! Plus*** will continue creating lines until you double-click.

4. *Double-click* anywhere on the drawing surface to complete the line. This tells **Key *Draw! Plus*** you are finished drawing this element.
5. A selection frame surrounds the line, *the cross reverts to a crosshair*, and you can start a new element with the Quill.

The line you drew begins and ends with anchor points. The line between these points is called a *segment.*

In the next exercise, you use the Quill to draw a triangle.

You can use the Line tool or the Quill tool to draw a triangle. With the Line tool, you must make three separate lines, or elements. Then, to fill the triangle, you must join the corners to make one element. With the Quill tool, the triangle is already one element containing three line segments, so it is more efficient to use the Quill to make a triangle.

To draw the triangle:

1. Select the Quill tool. The pointer becomes a crosshair (cross within a circle).

   > **Key *Draw! Plus*** snaps to the nearest grid point.

2. Click at the points where you want the corners to be. Each time you click, a new *corner* point and straight line is added to the last one you drew.
   - ➢To cancel the *first* corner point, double-click. The corner point disappears and the cross reverts to the crosshair.
   - ➢To delete a corner point, press the Backspace key.

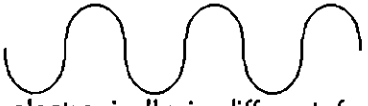
   > When two straight lines are joined at an angle by an anchor point, the point is called a *corner point.*

3. Complete the element by double-clicking.
   The cross reverts to the crosshair, indicating that the Quill is active, but not in the process of drawing an element. The triangle is complete.

NOTE: If you draw with the Quill and then choose another tool without first double-clicking to end the Quill element, then select the Quill again, anything you draw connects to the endpoint of the unfinished element. This can result in some unexpected line segments. Furthermore, you cannot select an unfinished Quill element. You must select the Quill and double-click to complete the element; then you can select it.

Drawing Simple Curves

A simple curve flows in one direction, like a U. A compound curve flows in two directions, like an S. In this exercise you connect many simple curves to make this picture:



Drawing curves electronically is different from drawing them freehand. It will take some practice to get the feel of it. These exercises are designed to show you the principles so you can create your own designs.

When you draw a curve, **Key *Draw! Plus*** uses special anchor points to determine the size and direction of the curve.

The length of a straight line is determined by the distance between the starting and ending anchor points.

> A tangent line intersects with a curve at the tangent point.

Similarly, the distance between the starting and ending points of a curve is also determined by the distance between the starting and ending anchor points, but in a curve these are special anchor points called *tangent* points.

For the following exercise:

- Choose **New** from the File menu to clear the screen.
- Make sure **Colors** is turned off and **Snap to Grid** is turned on, which makes this particular learning exercise easier to manage.

To draw simple curves:

1. Select the Quill. The pointer changes to a crosshair (cross within a circle).
2. Move the crosshair onto the grid point located at 4 inches on the vertical ruler and 2 inches on the horizontal ruler.

> To cancel the *first* tangent point, double-click.

3. Press *and hold down* the mouse button to set the first tangent point. *Do not release the mouse button yet.*
4. Drag straight *down* one inch to the grid point at 5 inches on the vertical ruler and 2 inches on the horizontal ruler. As you drag, a line extends from the tangent point an equal distance in both directions. Points, called *direction points,* are at each end of the *tangent line.*

> To delete a tangent point, press the Backspace key.

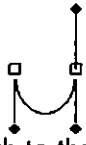
5. Before you release the mouse, the line looks like this:

6. Release the mouse.
7. The bottom portion of the tangent line remains, because you dragged downward.
   The line now looks like this:

8. Place the cross one inch to the right of the first tangent point, on the grid point at 4 inches on the vertical ruler and 3 inches on the horizontal ruler.

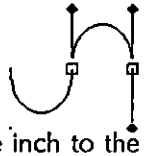
> The height of the curve is determined by the length of the tangent line.

9. Drag *upward* one or two inches, still holding the mouse button. As you drag the tangent line, the curve forms between the two tangent points. The farther you drag, the longer the line, and the deeper the curve. Drag back toward the starting point to shorten the curve. Still holding down the mouse button, drag toward the right and then the left, to see what happens to the curve. As you drag a direction point, the curve changes direction.
10. Drag to the grid point at 3 inches on the horizontal and vertical rulers. Release the mouse button. The curve now looks like this.

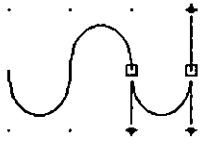


11. Place the cross one inch to the right, near the grid point at 4 inches on the vertical and horizontal rulers.
12. Drag *downward* one inch, to the grid point at 5 inches on the vertical ruler, and 4 inches on the horizontal ruler. Release the mouse button.

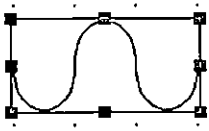
The curve now looks like this.



13. Move the cross one inch to the right and drag *upward* one inch. Release the mouse button. The curve now looks like this.



14. *Double-click to close the curve.* The cross reverts to the crosshair, and the selection frame surrounds the element. It now looks like this:



The picture is almost complete. The next section shows you how to de-select an element while the Quill is active, and how to re-open an element drawn with the Quill.

To de-select the element:

Click on the Selector tool, then click outside the element. The element is de-selected.

To re-open the element:

1. Click on the Selector tool if it is not already selected.
2. Click on the element to select it.
3. Click on the Quill tool.
4. Double-click on the selected element. The selection frame disappears, the crosshair changes to a cross, and tangent lines and direction points appear around the last curve you drew. The picture looks just like it did before you closed the element in step 14.
5. Move the cross to the grid point one inch to the right of the last tangent point, then add two more curves in the same pattern.
6. **Double-click** to complete the picture.

If you try this exercise with **Snap to Grid** turned off, you will be surprised at the versatility of the curves you create!

Drawing Compound Curves

This exercise shows you how to draw a series of compound curves, like these:

Choose the **New** command to clear the screen and respond appropriately to the Abandon/Save alert. Use the same settings as the

last section, making sure that **Snap to Grid** is turned on and **Colors** is turned off in the View menu.

To draw compound curves:

> If the pointer is a cross, double-click to get the crosshair.

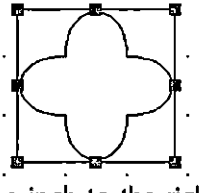
1. Select the Quill tool. The pointer changes to a crosshair.
2. Move the crosshair onto the grid point at 4 inches on the vertical ruler and 2 inches on the horizontal ruler.

> To cancel the *first* tangent point, double-click.

3. Press *and hold down* the mouse button to set the first tangent point. *Do not release the mouse button yet.*
4. Drag straight *down* one inch to the grid point at 5 inches on the vertical ruler and 2 inches on the horizontal ruler. As you drag, the tangent line extends from the tangent point an equal distance in both directions, and the direction points appear at each end of the line. The line looks just the same as in the first exercise.

> To delete a tangent point, press the Backspace key.

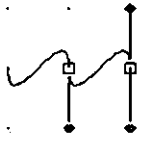
5. Release the mouse. The bottom portion of the tangent line remains, because you dragged downward.
6. Place the crosshair one inch to the right of the first anchor point, at the grid point at 4 inches on the vertical ruler and 3 inches on the horizontal ruler.
7. Drag *downward again* one inch, and release the mouse button. This time **Key *Draw! Plus*** makes a compound curve, because you dragged two tangent points in the *same* direction. The curve now looks like this:



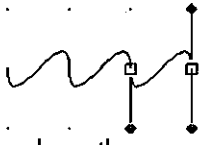
8. Place the cross one inch to the right, on the grid point at 4 inches on the vertical and horizontal rulers.

9. Drag *downward* again one inch, to the grid point at 5 inches on the vertical ruler, and 4 inches on the horizontal ruler, and release the mouse button.

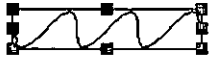
   The curve now looks like this:



10. Move the cross one inch to the right and drag *downward* one inch again. Release the mouse button.
    The curve now looks like this:



11. Double-click to close the curve. The cross reverts to the crosshair, and the selection frame surrounds the element.



To make a compound curve that moves in the opposite direction, repeat this exercise, but drag *upward* each time.

Be sure to double-click to end the last element.

Connecting a Line to a Curve

Choose the **New** command from the File menu to clear the screen again, making sure that **Colors** are still turned off and **Snap to Grid** is on in the View menu.

In the next exercise you make this figure to learn how to add lines to curves and curves to lines.

To draw a line after a curve:

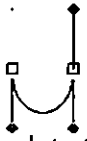
1. Select the Quill. The pointer changes to a crosshair.
2. Move the pointer to the grid point at 4 inches on the vertical ruler and 2 inches on the horizontal ruler.

To cancel the *first* tangent point, double-click.

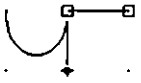
3. Drag straight *down* one inch to the grid point at 5 inches on the vertical ruler and 2 inches on the horizontal ruler, and release the mouse button.

> To delete a tangent point, press the Backspace key.

4. Place the crosshair one inch to the right of the first anchor point, at the grid point intersecting at 4 inches on the vertical ruler and 3 inches on the horizontal ruler.
5. Drag *upward* one inch to make a simple curve, then release the mouse button. The curve now looks like this:



6. Place the cross one inch to the right, near the grid point at 4 inches on the vertical and horizontal rulers, and *click* to set the endpoint of the line segment. *Do not drag.*
   Key *Draw! Plus* draws a line between the last tangent point and the endpoint of the line. The direction point for the last curve remains. The figure now looks like this:



7. Move the cross to another point and click, to set another endpoint and draw another straight line.
8. Press the Backspace key to erase the last straight line and return to the figure shown in the last picture.

Keep the curve and line just as it is and go on to the next section to learn how to add a curve to a line.

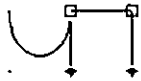
To add a curve to a line segment:

1. Press down the **Alt** key, place the cross near the endpoint of the line, and press the mouse button. A direction point appears.

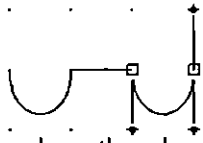
> To start over, press Backspace, then click to replace the line segment.

2. Drag the direction point *downward* one inch to the grid point at 5 inches on the vertical ruler and 4 inches on the horizontal ruler, and release the mouse button. This creates a tangent line and changes the endpoint of the line to a tangent point like

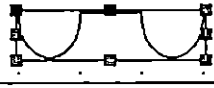
the ones in the previous exercises. The picture now looks like this:



3. Place the cross on the grid point at 4 inches on the vertical ruler and 5 inches on the horizontal ruler, and drag *upward* one inch, to the grid point at 3 inches on the vertical ruler and 5 inches on the horizontal ruler. As you drag, a curve like the first curve appears. Release the mouse button.
   The picture now looks like this:



4. Double-click to close the element. The cross reverts to a crosshair and the selection frame surrounds the element.



A curve meets a line at a junction point.

To de-select the element, click on the Selector tool, then click outside the element.

The next section shows you how to change the direction of a tangent line. You can skip it and go directly to the section "Tracing an Ellipse," if you want to practice drawing with the Quill without the grid snap.

Changing the Direction of a Tangent

Choose the **New** command to clear the screen again, and ensure that the settings for this chapter are still in effect.

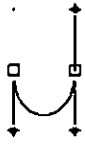
In this exercise you make this picture to learn how to change the direction of a tangent line that will affect the direction of the next curve.

To make the symbol:

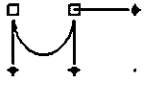
1. Select the Quill tool.

   Press Backspace to back up one anchor point.

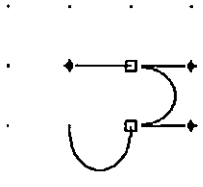
2. Move the crosshair onto the grid point at 4 inches on the vertical ruler and 2 inches on the horizontal ruler.
3. Drag *downward* one inch, to set the first tangent line, and release the mouse button. The lower direction point remains on the workspace.
4. Place the cross on the grid point at 4 inches on the vertical ruler and 3 inches on the horizontal ruler.
5. Drag *upward* one inch and release the mouse button, to set the second tangent line and create the first curve between the two tangent lines. The picture again looks like this:



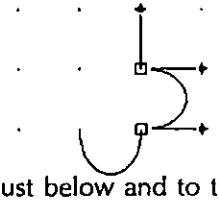
6. Place the cross over the top direction point, the one located at 3 inches on the vertical and horizontal rulers.
7. Hold down the **[Alt]** key, and *drag* the direction point one inch clockwise to below to the right of the grid point located at 4 inches on the vertical and horizontal rulers. Release the **[Alt]** key and the mouse button. The picture now looks like this:



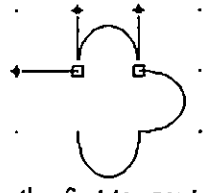
8. Place the cross on the grid point located at 3 inches on the vertical and horizontal rulers.
9. Press and hold down the mouse button to set a tangent point, then drag to the left one inch to make the second curve. Release the mouse button. The picture now looks like this:



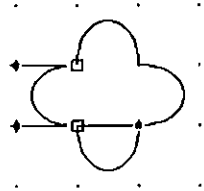
10. Place the cross over the leftmost direction point, on the grid point at 3 inches on the vertical ruler, and 2 inches on the horizontal ruler.
11. Hold down the **[Alt]** key, and *drag* the direction point clockwise one inch, to the grid point at 2 inches on the vertical ruler and 3 inches on the horizontal ruler. Release the **[Alt]** key and the mouse button. The picture now looks like this:



12. Place the cross just below and to the right of the grid point located at 3 inches on the vertical ruler and 2 inches on the horizontal ruler.
13. Drag *downward* one inch to make the third curve.
14. Place the cross over the lower direction point, the one located at 4 inches on the vertical ruler and 2 inches on the horizontal ruler.
15. Hold down the **[Alt]** key, and *drag* the direction point one inch *to the left and upward,* to the grid point at 3 inches on the vertical ruler and 1 inch on the horizontal ruler. Release the Alt key and the mouse button.

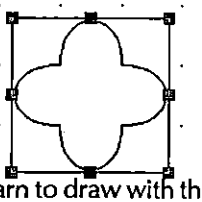


16. Place the cross on the first tangent point, the one at 4 inches on the vertical ruler and 2 inches on the horizontal ruler. Drag *to the right* one inch, to make the fourth curve. Release the mouse button.



17. Double-click to close the element. To de-select the element, click on the Selector tool, then click outside the element.

Tracing an Ellipse



One of the best ways to learn to draw with the Quill is to trace existing curves. The idea is to use as few points as possible to accomplish the task.

In this exercise you draw and trace an ellipse to get the feel of placing tangent points and drawing curves without the grid snap.

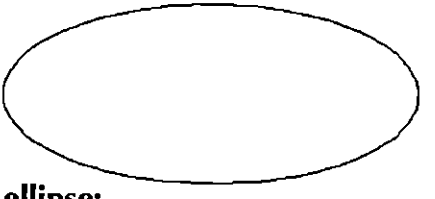
For this exercise, choose **New**, then turn the **Snap to Grid** command *off* in the View menu. Leave all the other settings the same.

To draw the ellipse:

1. Select the Circle tool. The pointer becomes a cross.

   > Double-click on the selected element to display the Element Settings dialog.

2. Place the cross on the drawing surface and drag an ellipse that is about 7 inches long and 3 inches high. You can use the **Element Info** command in the Element menu to help you. Place the ellipse in the center of the drawing surface, and de-select it, so it looks like this:

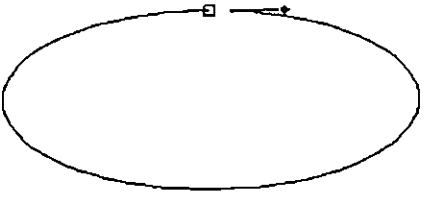


To trace the ellipse:

1. Click on the Quill tool to select it. The pointer changes to a crosshair (cross within a circle).

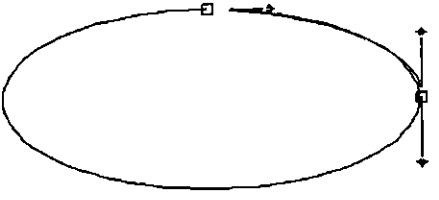
   > Double-click to start over.

2. Move the crosshair to the top center of the ellipse. Align the horizontal line of the crosshair exactly on top of the ellipse, in the middle, and drag a tangent line to the right about one inch, so it looks like this:



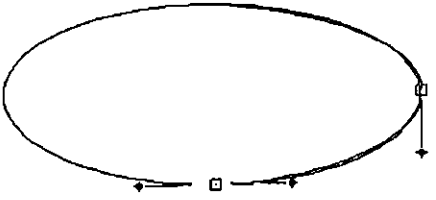
Press Backspace to back up one point.

3. Place the cross on the right side of the ellipse, so the vertical line of the cross is exactly on top of the ellipse, in the middle. Drag straight down to set another tangent line and create the first curve. Drag until your curve is as close to a copy of the ellipse as you can make it. It might take you a few tries to do this. The ellipse looks something like this:

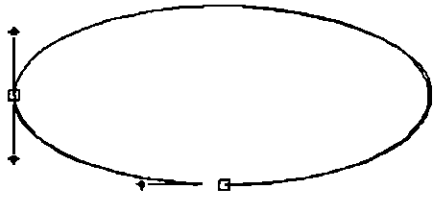


Note that when the **Snap to Grid** command is off, the tangent point appears exactly where you click. Note also how the curve changes as you drag the tangent line.

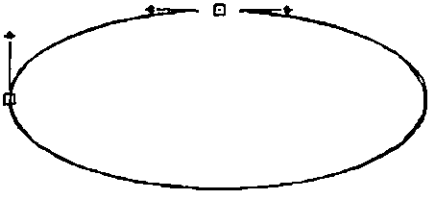
4. Move the crosshair to the bottom center of the ellipse. Align the horizontal line of the crosshair exactly on the ellipse, in the middle, and drag a tangent line to the left about one inch, so it looks like this:
5. Place the cross on the left side of the ellipse, so the vertical line



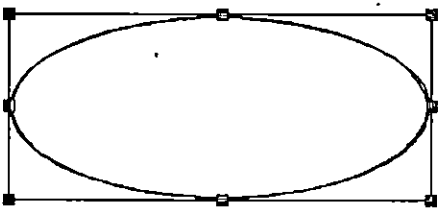
is exactly on top of the ellipse and opposite the point on the right. Drag upward to set the third tangent line, so the ellipse looks something like this:
Note how you are placing tangent points along the path, following the direction of the curve from its starting point toward its finish.



6. Place the cross on the top again, where you placed the first tangent point, and again drag to the right about an inch, so the ellipse looks like this:



7. Double-click to finish the curve and return to the crosshair.



Using Fill Color with Open and Closed Elements

When you start **Key *Draw! Plus*** or choose the **New** command from the File menu, the default fill color is Hollow, and the default line color is Black. The default fill and line colors are displayed in two boxes on the left side of the status line. The fill color is on top; the line color is on the bottom.

Any element you draw automatically has these default colors, until you select the element and choose a different color.

You can set your own default color by choosing it in the color palette when *no element is selected* on the drawing surface. The default stays in effect until you restart **Key *Draw! Plus***.

Keep the following in mind when drawing with the Quill and Sketch tools:

- When the Fill Color palette is set to hollow, elements are not filled with any color or pattern. Hollow means the element is transparent and you can see through it.
- When the Fill Color palette is set to any color, any element you make is automatically closed and filled, until you select the element and set it to Hollow in the Fill Color palette.

What You Learned

You now know how to use the Quill to:

- set line endpoints, and draw lines and polygons;
- set tangent points and tangent lines;
- draw simple and compound curves;
- correct mistakes;
- change from lines to curves and vice versa;
- change the direction of a tangent.

You can also identify tangent lines, direction points, and the following types of anchor points:

- tangent point: between two curves;
- corner point: between two straight lines;
- junction point: between a straight line and a curve.

The next chapter shows you how to use the Plane tool to edit all elements in **Key *Draw! Plus***.

Editing Curves

This chapter shows you how to use the Plane tool to edit elements you create in **Key *Draw! Plus***. In Chapter 4 you learned how to draw lines and curves with the Quill tool, and how to identify anchor points, tangent lines, and direction points. The Plane tool lets you modify all these components of an element.

The exercises in this chapter center around editing an ellipse. By the time you are done editing the ellipse you will be able to use the Plane tool and all of the commands in the Plane tool pop-up menu. The exercises in this chapter will take about forty-five minutes to complete.

For all of the exercises in this chapter:

- Turn **Grid** off in the View menu.
- Turn **Colors** off in the View menu.
- Turn **Snap to Grid** off in the View menu.
- Choose **Full View** from the View tool pop-up menu.
- Choose **Preferences** from the Options menu and set Redraw Speed to Quality.

What is in this chapter:

- selecting and moving anchor points
- editing tangent lines
- using the commands in the Plane tool pop-up menu
- making an equilateral triangle
- making a 90° arc

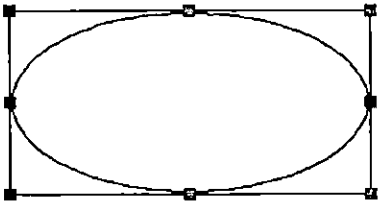
Editing an Ellipse

In this exercise you draw an ellipse and practice basic editing with the Plane tool.

To draw the ellipse:

1. Select the Circle tool.
2. Place the cross in the middle of the drawing surface.
3. Hold down the **Shift** key while you drag horizontally, to draw an ellipse from center. Make the ellipse about 6 inches long and 3 inches wide. You can use the **Element Info** command to set the exact measurements.

4. Release the mouse button. The ellipse appears surrounded by the selection frame, and looks like this:



5. Choose **Save As** from the File menu. The Item Selectory appears. Type ELLIPSE.GEM on the Selection line. The picture will be saved in the directory listed on the Directory line. Click on OK.
   After learning several editing operations on this ellipse, you will abandon those edits and revert to the picture you just saved. You can, however, abandon your current edits on the ellipse at any time during this tutorial, in order to return to the original shape.

Selecting Anchor Points

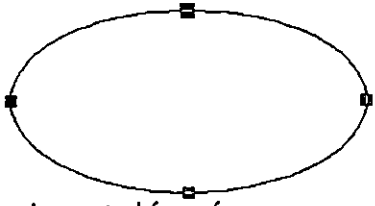
When you select an element with the Plane tool, you see its anchor points, not its handles. When *all* of an element's anchor points are selected, you can move the element by dragging one of the anchor points.

To select and move the ellipse with the Plane:

1. Click on the Plane tool to select it. The selection frame disappears, and the cross changes to the pointer.

   > You can also use the Plane tool to drag a selector box around the ellipse.

2. Press the **[Alt]** key while you click on the ellipse, to select it with the Plane tool. Four anchor points appear, and the ellipse looks like this:

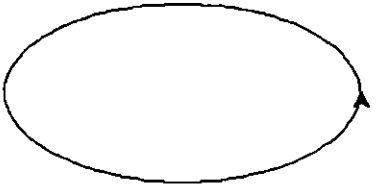


Because the ellipse is created from four curves and no straight lines, all of these anchor points are *tangent points.*

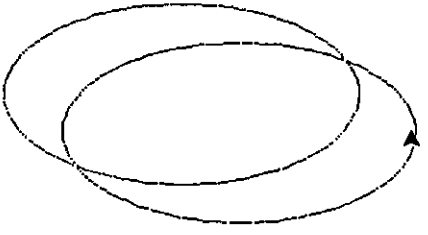
The tangent point at the top of the ellipse is larger than the others because it is, in fact, two overlapping tangent points—the beginning point of the ellipse and the endpoint of the ellipse.

> Anchor points are solid when selected and hollow when not selected.

3. Place the pointer over any one of the tangent points and press the mouse button. The pointer changes to an arrowhead and the tangent points disappear.
   If you do not press on one of the selected tangent points, the ellipse becomes de-selected. Press **[Alt]** and click on the ellipse to select it again, then repeat step 3. If you see tangent lines, de-select, re-select, and repeat step 3.



4. Drag in any direction. The ellipse changes to a dotted line, and its dotted outline moves as you drag. The entire ellipse moves because you selected all of the tangent points.

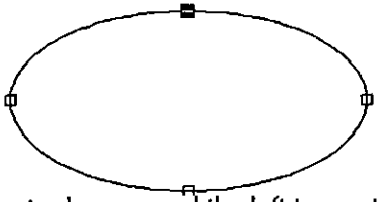


> You can use the Undo command to undo the last move or edit.

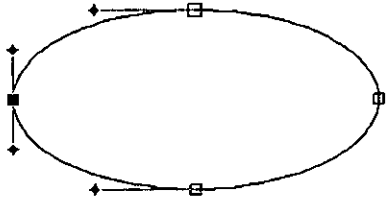
5. Still holding down the mouse button, drag it back to the center of the drawing surface.
6. Click away from a tangent point to de-select the ellipse.

To select anchor points by dragging:

1. Drag a selector box around the top tangent point only. It is selected; the three other points are identified by hollow squares, which show they are not selected.



2. Drag a selector box around the left tangent point.



➢The left-hand point is selected.

➢Its tangent line and direction points are displayed.

➢The tangent points on either side of the selected point are identified by a hollow box, and show the tangent line and direction point closest to the selected tangent point.

3. Drag a selector box around the bottom tangent point, and then around the right-hand tangent point.
   Note that all but the top tangent point behave the same way. You will learn more about the top point later.

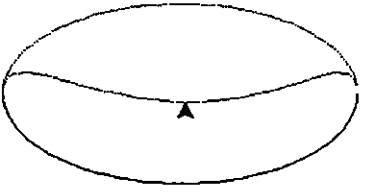
Moving Curves

You can select an anchor point and drag it to change the shape of a curve on both sides of the point. To drag the top of the ellipse, you must select both the starting and endpoint together. When you select more than one point at a time, you do not see the tangent line for an individual point.

To move the ellipse from the top:

1. Drag a selector box around the top point again.
2. Place the pointer over the top point and press the mouse button. *Do not release the mouse button yet.* The pointer changes to an arrowhead.

3. Drag the top of the ellipse in every direction. The original shape remains on the drawing surface, while a dotted outline shows the new shape as you drag.
   Note that dragging affects the curves on either side of the tangent point you are dragging, and that the bottom curves remain stationary.

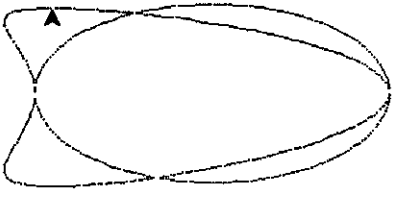


4. Drag back to the starting point and release the mouse button.

To move two curves:

> You can click and Shift-click on anchor points to select them with the Plane tool.

1. Drag a selector box around the top *and* the bottom tangent points. The two points are selected.
2. Again drag the top point in every direction.
3. This time note how all the curves are affected, because all of the curves are adjacent to a selected tangent point.



4. Drag back to the original shape and release the mouse button.

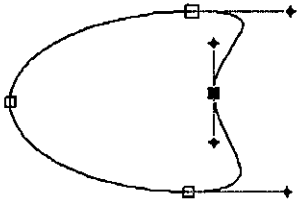
Editing Tangent Lines

You can edit curves by dragging two or more selected anchor points, as you did in the previous exercise. You can also drag a single selected anchor point that is displaying a tangent line and direction points.

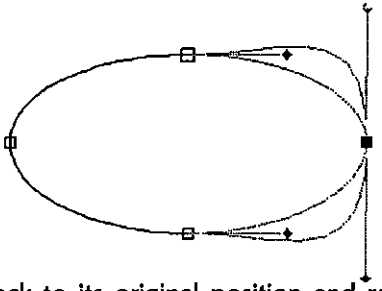
Finally, you can edit curves by dragging the direction points at the ends of a tangent line.

To edit a tangent line:

1. Drag a selector box around the right-hand tangent point. The solid box appears to show the point is selected, and its tangent line and direction points appear.
2. Place the pointer directly over the selected anchor point (solid box), and press on the mouse button to display the arrowhead.
3. Drag the anchor point to the left and right, noting the two curves that are affected, and the two that remain stationary. The figure might look something like this:



4. Drag back to the original shape and release the mouse button.
5. Place the pointer over the top direction point, press the mouse button, and drag the direction point to the left, to the right, up, and down. Notice how the curve changes as you drag the direction point.



6. Drag it back to its original position and release the mouse button.

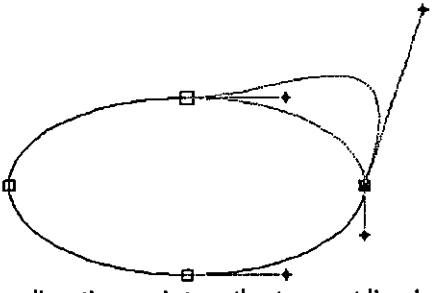
When you dragged the direction point, both sides of the tangent line changed in length equally. This is true of a *symmetric* tangent. A tangent is always symmetric unless it is *broken*.

Breaking a Tangent Line

You can break a tangent line in order to move one side of it independently from the other.

To break the tangent line:

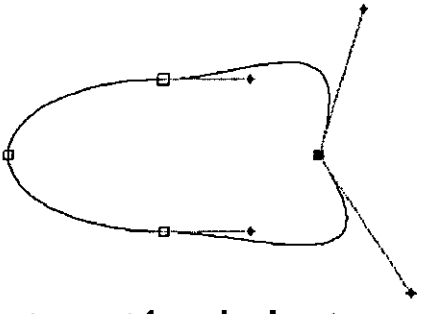
1. Place the pointer over the top direction point again, but this time hold down the **Alt** key while you drag the direction point all around.
   Notice that now only the top part of the tangent line moves as you drag.



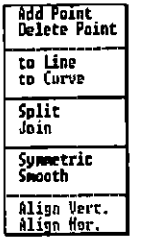
2. Drag the direction point so the tangent line is at an angle and release the **Alt** key and mouse button.
   From now on, until you change it, the tangent is broken. You do not need to press the **Alt** key again to drag it separately.

> To undo an edit, choose the **Undo Edit** command from the Edit menu.

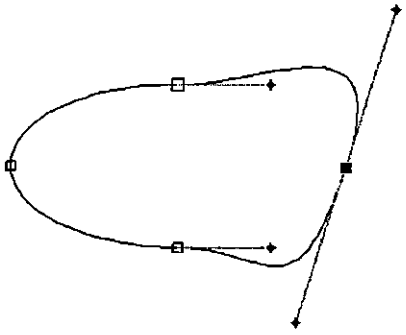
3. Drag the bottom direction point in different directions. It too remains separate. Leave the bottom tangent line at an angle to the top tangent line.



To change the tangent from broken to symmetric:



1. With the right-hand tangent still selected, move the pointer away from the ellipse and double-click to display the Plane tool pop-up menu.
   It appears in the workspace where you double-click. The appearance of the ellipse changes like this *(please see overleaf)*:



➢ The tangent line and direction points disappear.

➢ The solid box shows the selected tangent point.

➢ The hollow boxes show the other tangent points on the element.

➢ The dotted line shows the curve that is between the selected tangent point and the next tangent point on the path. This is the curve that can be affected by commands in the Plane tool pop-up.

> The path of a curve runs from the starting point toward the endpoint.

2. Choose the **Symmetric** command from the Plane tool pop-up menu.
   The pop-up disappears, and the tangent lines reappear. The selected tangent line is returned to a straight line.
3. Drag one of the direction points again. The curve is restored to its unbroken symmetric state; both sides are the same length, and when you drag one side, the other side moves too.

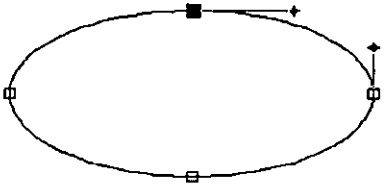
Separating Overlapping Points

To edit one point in an overlapping pair, you must select it separately. For this exercise, you revert to the original ellipse that you drew.

Choose the **Abandon** command from the File menu and click on Abandon in the Abandon/Save alert. **Key *Draw! Plus*** discards the current picture and displays the original ELLIPSE.GEM in the workspace. Make sure the Plane tool is selected.

To separate the starting and endpoints:

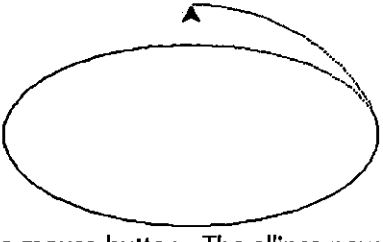
1. *Click* on the top tangent point. The ellipse looks like this:



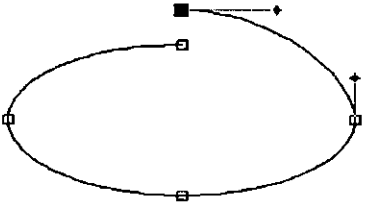
Note the following about the starting point:

- When you drag around the starting point, you see both the starting point and the endpoint selected.
- When you click on the starting point, you see the tangent line of the starting point only. This is because the starting point is on top of the endpoint, and the starting point is selected when you click.

2. Place the pointer over the selected tangent point—the solid box—and press the mouse button. The pointer changes to the arrowhead.
3. Drag the tangent point up about an inch, still pressing the mouse button. The ellipse now looks like this:

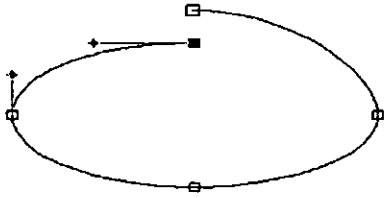


4. Release the mouse button. The ellipse now looks like this:

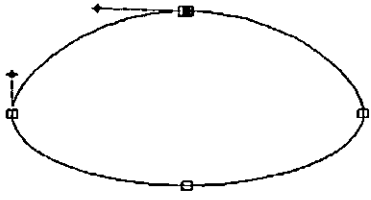


Note that the starting point is identified by a larger tangent point than the endpoint.

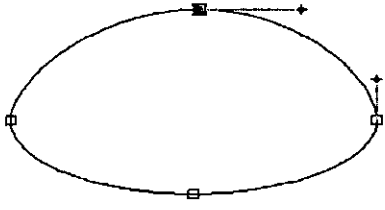
5. Click on the smaller tangent point to the left—the endpoint of the ellipse, to display the endpoint tangent line. The ellipse now looks like this:



6. Drag the endpoint to a new position and release the mouse button.
7. Drag the endpoint to meet with the starting point of the ellipse. You see the solid box (selected endpoint) inside the hollow box (de-selected starting point).



8. Click on the right side of the tangent point to select the starting point and its tangent line. The ellipse looks like this:



At this point, the starting point is on top again.

Because you are manually placing them together, they might not be exactly aligned, and they might look slightly different from the picture.

> You can use the left and right arrow keys to move through anchor points from start to end and back.

To select the endpoint now you must use the right arrow key to move through the tangent points along the ellipse from start to end. When the endpoint is selected, you cannot use the right arrow key to select the starting point. You must use the left arrow key to move back through the tangent points to the start of the ellipse.

Joining Overlapping Points

You can use the **Join Points** command to bring the first and last points of an element together, or to join two separate points into one.

- If the points are on the same element, one point is placed on top of the other.
- If the points are on different elements, they become one point.

When you join the starting point and the endpoint, the **Join Points** command *aligns* the points on top of one another, but does not physically join them.

To join the starting point and endpoint:

1. Drag a selector box around only the top two tangent points. The selected points look a little different than when you first started because you have moved them.
2. Double-click away from the ellipse to display the Plane tool pop-up.
3. Choose the **Join Points** command. The pop-up disappears, and the top two tangent points appear just as they did when you selected them in the first exercise.
4. Double-click to display the Plane tool pop-up again. Note that the **Join Points** command is still available. This is because the starting point and endpoint of an element, even an apparently closed element, are always separate points.

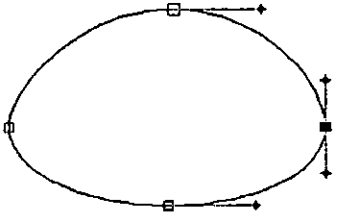
Once the two points are joined you can select only the top one again, unless you use the arrow key, or drag one away from the other.

Splitting a Point

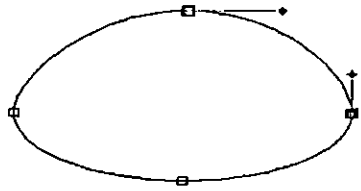
The **Split Point** command splits a single selected point into two points. The element that contained the point is split into two elements that can be separately selected, moved, rotated, and so on. This command works for any point, except for an element's beginning or endpoints.

To split a point:

1. Click on the right-hand tangent point to select it. The ellipse now looks something like this:

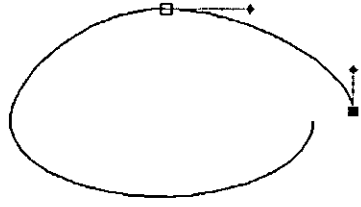


2. Double-click to display the Plane tool pop-up and choose the **Split Point** command. The element now looks like this:



The right hand tangent point is now split. The split creates another curve, another endpoint, and another starting point in the figure.
The selected tangent point is large because it is now the starting point of one element and the endpoint of another element. The tangent line for one end is showing.

3. Press the left arrow key to move to the starting point for the new curve.
4. Press the right arrow key to return to the endpoint of the new curve.
Because there are now two distinct curve segments, you must drag a selector box or click to select points on the other segment. You cannot move through all of the points in the figure with the arrow keys, as before.
You can now move the direction point of the split tangent separately, or drag the tangent point away.
5. Drag the tangent point to the right about one inch, so the figure looks something like this:

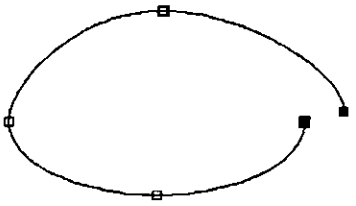


Joining Two Points

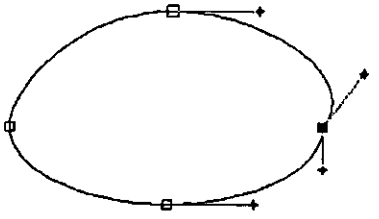
These two points are now on different elements, so joining them will create one point.

To join two points:

1. Drag a selector box around the two points at the right, so the figure looks something like this:



2. Double-click to display the Plane tool pop-up, and choose the **Join Points** command.
   The two points are once again joined, and the figure looks something like this:



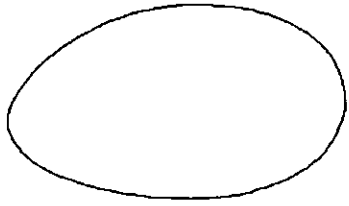
   Note that the tangent lines are broken, and that you can drag the direction points separately.
3. To return them to a symmetric condition, choose the **Symmetric** command from the Plane tool pop-up.
   The tangent line is once again straight, both sides are the same length, and dragging one direction point causes the other one to move an equal distance in the opposite direction.

Deleting a Point

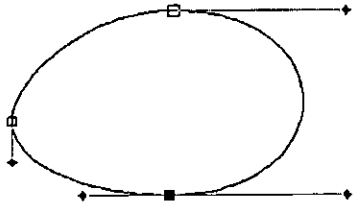
The **Delete Point** command deletes the selected point.

To delete a point:

1. With the right-hand tangent point still selected, double-click to display the Plane tool pop-up. The dotted line appears between the selected point and the next point on the path.
2. Choose the **Delete Point** command.
   The point disappears entirely, the curve becomes continuous from the starting point to the tangent point on the bottom, and the figure now looks like this:



3. Click on the top tangent point—once again the only starting point. The tangent lines appear for the top and the next point toward the end of the curve, which is now the bottom point.
4. Click on the bottom point. Tangent lines appear for the bottom and for the points on either side of it.
   Note that the bottom tangent lines are now different lengths, and you can drag either direction point separately.



5. Click on the left-hand tangent point. It is unchanged.

Adding a Point

The **Add Point** command adds a new point to an element, located at the midpoint of the dotted line.

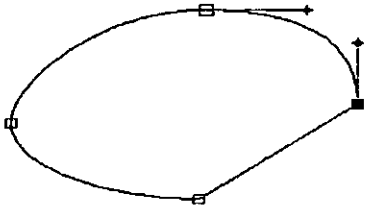
To add a new point:

1. Click on the top tangent point.
2. Double-click to display the Plane tool pop-up. The dotted line appears between the selected starting point and the next point along the path.
3. Choose the **Add Point** command. The right-hand tangent point reappears between the two points, and it is symmetric.

Converting to a Line

The **to Line** command converts the dotted line from a curve to a straight line, and is available only when the dotted line is a curve.

With the right-hand tangent point still selected, choose the **to Line** command from the Plane tool pop-up. The figure now looks like this:



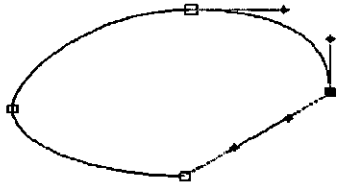
The curve along the dotted line is converted to a line, creating junction points on the right and on the bottom.
Recall from Chapter 4 that a junction point joins a straight line to a curve, and has one direction point.

Converting to a Curve

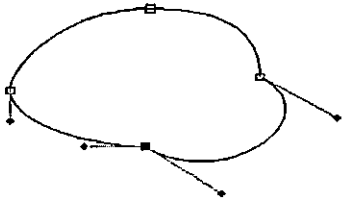
The **to Curve** command converts the dotted line from a straight line to a curve, and is available only when the dotted line is a straight line.

To convert to a curve:

1. Select the right-hand tangent again.
2. Choose the **to Curve** command from the Plane tool pop-up. The figure looks something like this:



   The little points on the line are direction points that you can drag to shape the converted line into the curve you want.
3. Drag each direction point until the line is curved on both sides, and it looks something like this:



Smoothing a Transition

The **Smooth** command removes the angle between curves at a broken tangent, or between a curve and a line at a junction point, but does not change the broken or unequal status of a tangent line.

With the bottom tangent point selected, choose the **Smooth** command from the Plane tool pop-up.

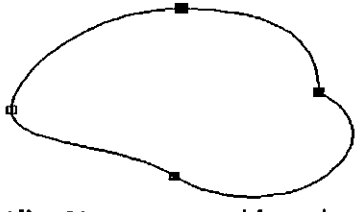
The broken tangent line becomes one straight tangent line, but each side remains a different length, and you can still move each side separately.

Aligning Anchor Points

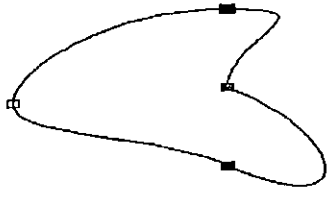
The **Align Vert.** and **Align Horiz.** commands align selected anchor points vertically or horizontally.

To align anchor points:

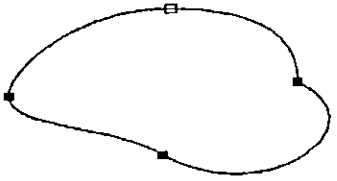
1. Drag a selector box, or click and **Shift**-click with the Plane tool, to select the three rightmost tangent points, as shown in the picture:



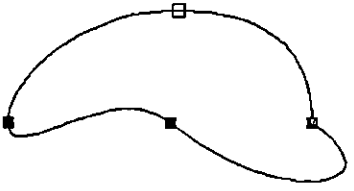
2. Choose the **Align Vert.** command from the Plane tool pop-up. The three selected points are aligned vertically with the selected point nearest the starting point, like this:



3. Choose the **Undo Align** command from the Edit menu. The figure is returned to its previous shape.
4. Drag a selector box, or click and **Shift-click** to select the three bottom most tangent points, as shown in the picture:



5. Choose the **Align Horiz.** command from the Plane tool pop-up. The three 3 align horizontally with the first selected point nearest the element's starting point, as shown in this picture:

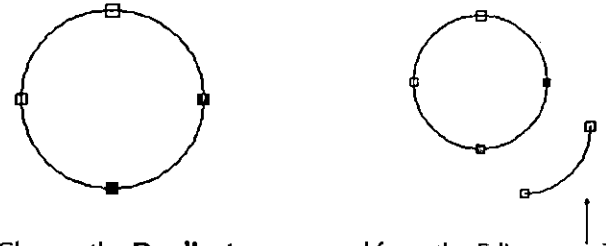


Drawing a 90° Arc

This exercise shows another way to use **Key *Draw! Plus***'s electronic tools to accomplish a task. Traditionally, to draw an arc, you use a compass, a protractor, and a ruler or T-square. The easiest way to draw a 90° arc in **Key *Draw! Plus*** is to select and copy one quarter of a circle.

To make a 90° arc:

1. Select the Ellipse tool.
2. Press the **[Shift]** and **[Ctrl]** keys to draw a true circle from center.
3. Select the Plane tool.
4. Drag a selector box around the right-hand and bottom two points, so the circle looks like this:



5. Choose the **Duplicate** command from the Edit menu. The arc appears below and to the right of the circle).

To make an arc of any degree, use the Line and Rotate tools to create an angle, then use the Quill to set tangent points perpendicular to the radii of the angle. The next exercise shows you how to create an angle.

Drawing an Equilateral Triangle

To make an equilateral triangle, one in which all sides are of equal length and each angle measures 60°, you must copy and rotate a straight line.

For this exercise, it is helpful to:

- turn on the grid (set to 1 inch) in the View menu;
- turn on **Snap to Grid** in the View menu.

Decide the length you want each side of the triangle to be. For this exercise, use four inches.

To draw an equilateral triangle:

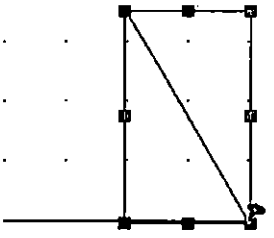
1. Select the Line tool. The pointer changes to a cross.

   > The Shift key draws a line from center. The Ctrl key constrains it to a straight line.

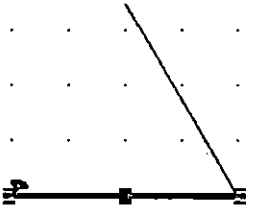
2. Place the cross in the center of the workspace, and about two thirds of the way down. Press the **Shift** and **Ctrl** keys while you drag horizontally, until you have a straight line four inches long, like this:

3. Click on the Thumbtack, move the pointer to the right end of the line, and click to place the thumbtack like this:

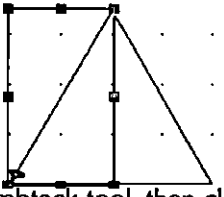
4. Double-click on the Rotator tool to display the Rotator Options dialog.
   - ➢ Under Rotate Around, click on Thumbtack.
   - ➢ Under Rotation Angle, type 60 (degrees).
   - ➢ Click on OK or press ↵ to exit the dialog.
5. Click on the Rotator tool. The pointer changes to an arrowhead.
6. Move the arrowhead to the left end of the line, hold down the **[Shift]** key, and drag clockwise until you see the dotted line representing the copy appear on the right side of the triangle, then release the mouse button. The figure now looks like this:



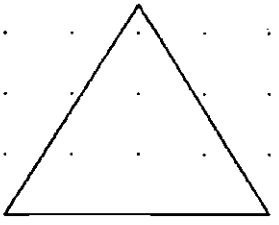
7. Click on the Selector tool and select the bottom line.
8. Click on the Thumbtack tool, then click on the thumbtack to remove it from the drawing surface.
9. Click on the left end of the bottom line, to place the thumbtack there. The figure looks like this:



10. Click on the Rotator tool.
11. Move the arrowhead to the right end of the line. Hold down the **[Shift]** key, dragging the right end of the line counter clockwise, until the dotted copy appears at the left side of the triangle, release the mouse. The figure now looks like this:



12. Click on the Thumbtack tool, then click on the thumbtack to remove it from the drawing surface.
13. Click on the Selector tool, then click outside the triangle to de-select it. It looks like this:



If you want to color the triangle, you must join the corners so the triangle is one element instead of three.

To join the corners of the triangle:

> Recall that corner points have no tangent lines.

1. Click on the Plane tool, then drag a selector box around the anchor points at the bottom left corner of the triangle, which will become one corner point when joined.
2. Double-click away from the triangle to display the Plane tool pop-up menu, and choose the **Join Points** command. The points at the bottom left of the triangle are joined into one corner point.
3. Repeat steps 1 and 2 for the bottom right corner.
   The top of the triangle is now a starting and endpoint. Therefore, the triangle is now one element—a polygon—and you can fill it.
   However, you might want to join the top points anyway, just to make it neater.
4. Click on the Selector tool, turn **Colors** on in the View menu, or press the **[F10]** function key.
5. Click on the Fill Color tool and select a color from the color palette. The triangle is filled with the color.

What You Learned

You now know how to use the Plane tool and the Plane tool pop-up menu to:

- select anchor points;
- move anchor points;
- edit tangent lines;
- break a tangent line;
- separate and bring together overlapping points;
- split and join points;
- add and delete points;
- convert to lines and curves;
- smooth junctions and other curve transitions;
- align anchor points.

Autotracing Images

Key *Draw! Plus's* interactive autotracing feature lets you load a *bit-image* file, such as those created in paint and scanning programs, and automatically trace the image, creating a picture in **Key *Draw! Plus***'s format. Chapter 11 of the **Key *Draw! Plus*** User Reference Guide discusses autotracing in detail.

In this chapter you load an image file and practice using many of **Key *Draw! Plus***'s autotracing features.

For the exercises in this chapter:

- Choose the **New** command from the File menu and respond appropriately to the Abandon/Save alert, if it appears.
- Choose the **Page Layout** command from the File menu and choose Landscape from the Orientation pop-up menu.
- Choose Full View from the View tool pop-up menu.

The exercises in this chapter will take about twenty minutes to complete.

What is in this chapter:

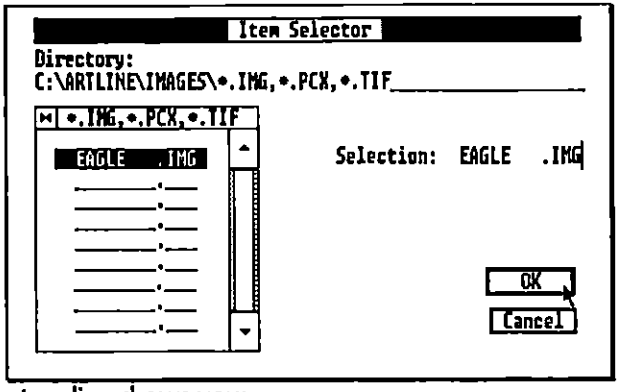
- loading the image
- setting the image options
- autotracing the image
- finishing the picture

Loading the Image

To autotrace an image, you must first load the image you want to trace. The image appears on the screen, but is not part of the picture file and remains unchanged in its original file. **Key *Draw! Plus*** comes with an image file called EAGLE.IMG that you use in this exercise.

To load the eagle:

1. Choose the **Load Image** command from the Image menu. The Item Selector appears.



The directory line shows you:

- the current drive—the one on which **Key *Draw! Plus*** is installed;
- the current directory path, in this case ARTLINE\IMAGES;
- the image file formats that **Key *Draw! Plus*** can load, identified by their filename extensions: IMG, PCX, and TIF.

The directory window shows the names of any files in the current directory with these extensions.

> You can double-click on EAGLE.IMG in the directory window to open the file.

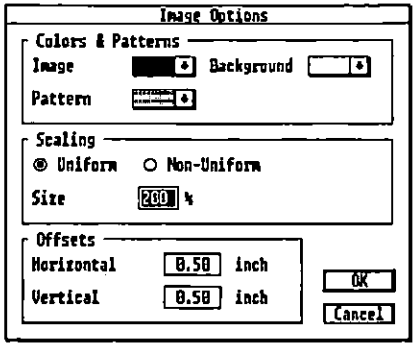
2. Click on the name EAGLE.IMG in the directory window, or type the name on the Selection line, so it looks like the picture.
3. Click on OK or press ↵ to exit the Item Selector.
   After a few moments, the eagle appears in the upper left-hand corner of the workspace.

Setting Image Options

You can set some options to change the colors, scaling, and position of the image in the workspace.

To set the image options:

1. Choose the **Image Options** command from the Image menu. The Image Options dialog appears.



   Fill in the dialog as shown in the picture.

   Under Colors and Patterns:

   ➢ If you have a color monitor, choose Cyan from the Image pop-up menu.

   ➢ If you have a monochrome monitor, leave the Image set to black and choose the bottom *(lightest)* pattern from the Pattern pop-up.

   Under Scaling:

   ➢ Leave Uniform selected.

   ➢ Type 200 (%) in the Size field, or use the pop-up slider.

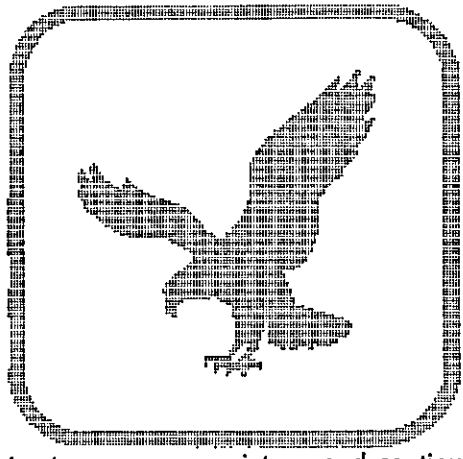
   Under Offsets:

   ➢ Type 0.5 inch in the Horizontal and Vertical fields.

2. Click on OK or press ↵ to exit the dialog.
   The image is enlarged, appears in a light pattern, and is offset 0.5 inch from the top and left borders of the workspace *(see image overleaf)*.

> For accurate tracing, Scaling and Offset values must be exactly the same each time you load the image.

The current settings in the Image Options dialog are saved as defaults when you choose the **Save Preferences** command.



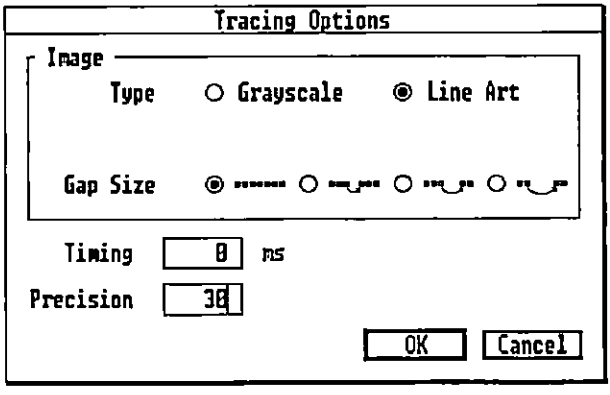
If you intend to stop, save your picture, and continue the exercise later, choose the **Save Preferences** command from the Options menu.

Setting Tracing Options

You can set tracing options to specify the type of image and the precision you want to use when tracing. In general, it is best to use the lowest precision that still reproduces the shape; otherwise the element outline might look too busy, and there may be needless anchor points and curves that can get in the way when editing the traced outline.

To set tracing options:

1. Double-click on the Trace tool. The Tracing Options dialog appears:
   Fill it out like the picture.



- ➢Click on Line Art. This is for images that contain only solid areas of black and white. Grayscale is for images that contain different shades of gray.
- ➢Leave Gap Size set to the first option–zero pixels. This means **Key *Draw! Plus*** will follow all of the pixels and not skip over any tiny irregularities. This is fine for the eagle, which does not have many irregularities.
- ➢Leave Timing set to 0 milliseconds. This option determines how long autotrace waits before starting the next curve segment.
- ➢Type 30 (%) in the Precision field, or use the pop-up slider or the + and - keys on the number key pad. This is enough for the eagle. A higher precision adds needless curves to the element, and a very high precision causes autotrace to exceed its point limit before the end of the trace.

2. Click on OK or press ↵ to exit the dialog.

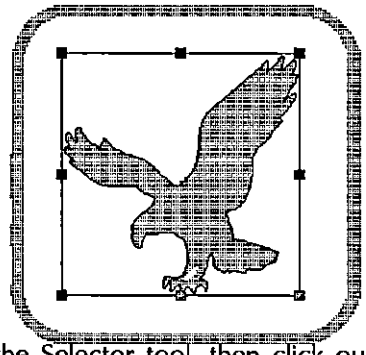
Autotracing the Image

If you are tracing the outside of an image, the tracing line moves clockwise. If you are tracing inside an image, the tracing line moves counter-clockwise.

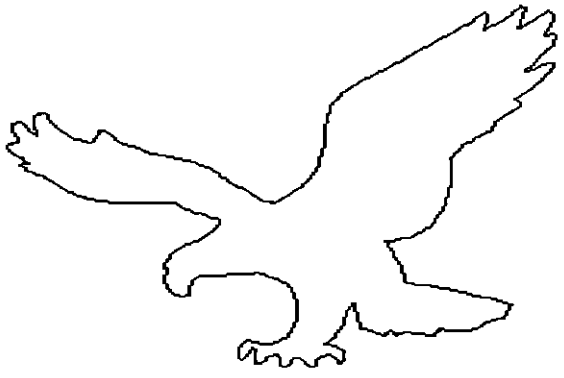
To autotrace the eagle:

1. Click on the Trace tool to select it. The pointer changes to a cross.
2. Place the cross in the white space just above the "V" between the eagle's wings.
3. Click to start autotracing. **Key *Draw! Plus*** displays the spinning ball while computing the curves.
   If you click too far from the image, **Key *Draw! Plus*** displays the "Cannot find tracing image" alert. Click on OK and try again.
   When the spinning ball stops, you see the black outline of the eagle and the Preview Curve dialog appears.

   You can use this dialog to change the precision and retrace, or to cancel the tracing.
4. Click on OK to accept the tracing.
   The dialog disappears, and a selection frame surrounds the tracing.



5. Click on the Selector tool, then click outside the selection frame to de-select the traced eagle.
   If you click outside the element with the Autotrace tool, **Key *Draw! Plus*** displays the "Cannot find tracing image" alert. Click on OK and repeat step 5.
6. Choose the **Image** command from the View menu, or press the **[F9]** function key, to hide the image and view the tracing.



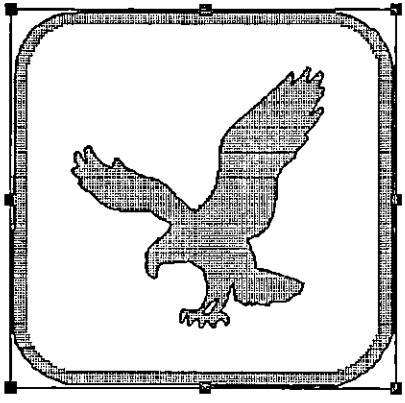
7. Press **[F9]** to display the image again.
8. Click on the Autotrace tool, then click in the oval space between the eagle's legs.
   The oval is traced, and the Preview Curve dialog appears again.
9. Click on OK to accept the tracing.

The next part of this exercise shows you how to stop the autotracing by pressing the spacebar, add and delete points, continue tracing, and look at the anchor points with the Plane tool.

Because the border is slightly irregular, you can enlarge the gap size and reduce the precision to create a straighter edge on the border.

To trace the border:

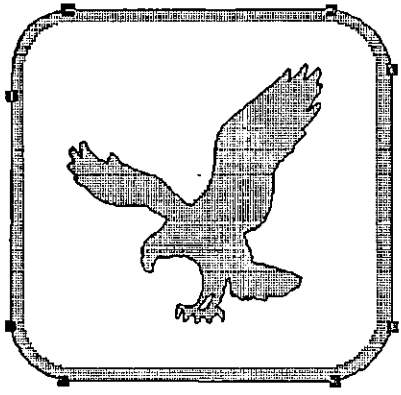
1. Double-click on the Autotrace tool. The Tracing Options dialog appears.
   - ➢Type 500 (milliseconds) in the Timing field. This slows the trace so you can manually interrupt it to do this exercise.
   - ➢Type 0 (%) in the Precision field.
2. Click on OK or press ↵ to exit the dialog.
3. Click on the Autotrace tool. The pointer changes to a cross.
4. Place the cross on the *outside* border, over the *top left* edge, and click to start the autotrace.
5. Watch carefully, with your finger on the spacebar. When you see the first part of the outline appear, press the spacebar. The tracing stops and the Preview Curve dialog appears. You can drag the title bar to move it away from the tracing area, but leave it on the screen.
6. Press the Tab or right arrow key to add the next point. Press the Backspace or left arrow key to delete the last point.
7. There is no need to change the precision here, so click on "Go on" to continue tracing.
8. Click on OK to accept the tracing.
   The tracing completes and the border appears with its selection frame.



The next two steps show how you can edit the curves drawn with the Trace tool just like those drawn with the Quill or Sketch tools.

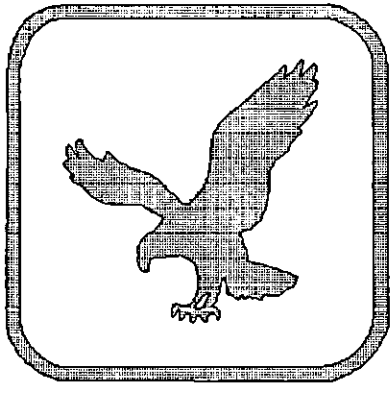
9. Click on the Plane tool. The selection frame disappears.

10. Place the pointer on the outer border, hold down the **Alt** key, and click to display the anchor points. The picture looks like this.



The anchor points on the corners are tangent points. You can edit these points later if you wish.

11. Click on the Autotrace tool.
12. Place the cross on the *inside* border, under the top left edge, and click to start the autotrace.
13. When the Preview Curve dialog appears, click on OK.
14. Click on the Selector tool, then click outside the image to deselect it.
15. Press **[F9]** to hide the image.



Finishing the Picture

You can now color the picture if you like. This exercise reviews selecting elements in stacks, and using fill colors, which you learned in Chapter 2.

If you autotraced the borders in a different order, or if you select and color the elements in a different order than listed here, use the Selector tool and the **Send to Back** and **Send to Front** commands in the Element menu to organize the stack so the fills show correctly.

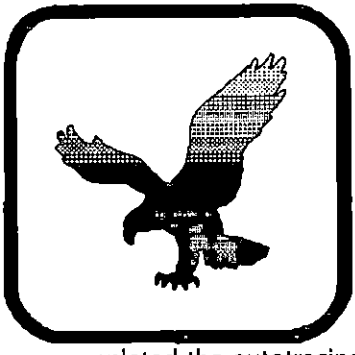
Recall that you drew the eagle first, so it is on the bottom of the stack of elements.

To color the picture:

1. Turn on **Colors** in the View menu.
2. Press the **Ctrl** key and click on the eagle to select it.
3. Click on the Fountain tool and choose Gray from the list. The eagle is filled with a gray fountain.
4. With the eagle still selected, choose the **Bring to Front** command from the Element menu. This prevents the border fills from covering the eagle.
5. Click on the *inner* border to select it.
6. Click on the Fill Color tool and choose White.
   The inner area appears to remain the same, but it has changed from Hollow to White. If you leave it hollow, the outer border's dark gray fill will show through it and obscure the eagle.
7. Click on the *outer* border to select it.
8. Click on the Fill Color tool and choose Dark Gray from the color palette. The outer border is filled with dark gray, and

because it was made before the inner border, it is underneath it and does not cover it.

9. Deselect the border, and the picture looks like this:



You have now completed the autotracing exercise. You can save the picture if you like. The original image is not saved with the file and remains unchanged.

What You Learned

You now know how to:

- load an image file;
- change the color and pattern of the image;
- show and hide the image you are tracing;
- scale the image;
- move the image on the workspace;
- set tracing precision, gap size, and timing;
- autotrace an image;
- stop, add and delete points, reset the precision, and continue the autotrace.

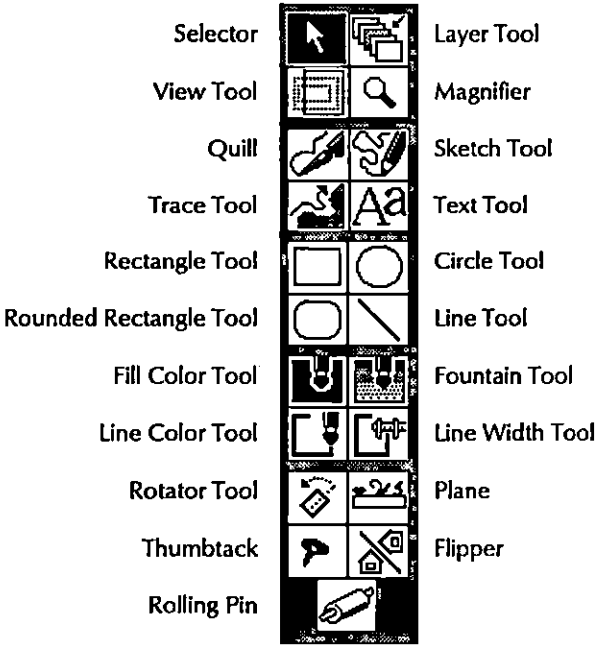
Conclusion

This concludes the **Key *Draw! Plus*** tutorial. If you have completed the exercises in this book, you know how to use all of the tools and almost all of the commands in **Key *Draw! Plus***. You have the experience you need to use **Key *Draw! Plus*** comfortably. You have the confidence to explore the many and varied artistic effects you can create with **Key *Draw! Plus***, because you know how to create and manage elements on the drawing surface, how to create and undo effects until you see the one you want, and how to open, save, and print your pictures.

The **Key *Draw! Plus*** User Reference Guide discusses every **Key *Draw! Plus*** tool and menu command in detail.

Standard Tools

Key *Draw! Plus* comes with these standard tools.



Index

!

$EM
- *backup file* 1-11
- **.GEM filename extension* 2-8

A

- *Alt-E* 2-4
- *Abandon command* 2-8, 5-8
- *Abandon/Save alert* 1-16
- *Add Fill dialog* 2-13
- *Add Point command*
  - *in Plane tool pop-up* 5-14
- *alert*
  - *Cannot find tracing image* 6-5
- *Align Horiz. command*
  - *in Plane tool pop-up* 5-16
- *Align Vert. command*
  - *in Plane tool pop-up* 5-16
- *Alt key*
  - *for selecting* 3-7
  - *symbol for* 1-9
  - *to break tangent* 5-7
  - *to change tangent* 4-11
  - *with Plane tool* 5-2
- *Alt-D*
  - *keyboard command* 1-9
- *Alt-E*
  - *to erase* 1-5
- *anchor point* 4-2
- *anchor points*
  - *aligning* 5-16
  - *selecting* 5-2
- *angles*
  - *making with lines* 5-18
  - *setting for lines* 1-12
- *arc (90°)-drawing* 5-17
- *arrow in menu* 2-2
- *arrow keys*
  - *to select anchor points* 5-10
  - *with autotrace* 6-7
- *arrows*
  - *in window borders* 1-16
- *ARTLINE/IMAGES directory* 6-2
- *Attributes*
  - *in Line Width pop-up* 2-11
- *Auto*
  - *redraw speed* 1-11
- *autotracing images* 6-1

B

- *Backspace*
  - *to cancel anchor point* 4-4
- *backup Key Draw! Plus files* 1-11
- *Blend command* 3-2
- *Blend Elements dialog* 3-2
- *blending elements* 3-2
- *Bring to Front command* 3-11
- *broken tangent* 5-6

C

- *commands*
  - *Delete* 2-4
  - *Snap to Grid* 2-4
  - *Undo* 2-4
- *Cannot find tracing image alert* 6-5
- *check box*
  - *in dialogs* 1-11
- *Circle tool* 2-7
- *circles*
  - *drawing* 2-7
- *click*
  - *with mouse* 1-3
- *Colors command* 2-2
- *commands*
  - *Abandon* 2-8, 5-8
  - *Blend* 3-2
  - *Bring to Front* 3-11
  - *Clone* 1-9
  - *Colors* 2-2
  - *Convert to Curves* 3-9
  - *Copy* 1-9
  - *Delete* 1-8
  - *Duplicate* 1-7
  - *Element Info* 3-10
  - *Fountains* 2-2
  - *Group* 2-10
  - *Guide Lines* 2-2
  - *Image* 6-6
  - *Image Options* 6-3
  - *in View menu* 2-2
  - *keyboard shortcuts* 1-8
  - *Load Image* 6-1
  - *Mask* 3-12

Merge Elements 3-9
Move 3-10
New 1-16
Page Layout 2-1
Paste 1-9
PostScript 2-15
Preferences 1-10
Quit 1-17
Repeat 1-8
Rotate 2-6
Rulers 2-3
Save As 2-7
Save Preferences 1-12, 6-3
Scale 2-5
Select All 2-10
Send to Back 3-22
Set Grid 2-3
Split Element 3-7, 3-9
SPlit Elements 3-12
Status Line 2-2
Text Along Path 3-6
To Output 2-15
Toolbox 2-2
Undo 1-8
Ungroup 2-12
Convert to Curves command
with text 3-9
Copy command 1-9
copying
elements 1-6
copying elements 1-9
corner point 4-3
Create Text Element dialog 3-5
Ctrl key
symbol for 1-9
to draw a square 2-4
to draw circles 2-7
Ctrl-click
to select 2-9
curve
connect to line 4-9
curves
compound 4-6
convert to line 5-14
drawing 4-3
editing 5-1
moving with Plane 5-4
simple 4-3

D

double-clicking 1-12
with Alt-E 2-4
keyboard shortcut 2-4
using 2-4
de-selecting elements 1-5
default
fill and line color 2-2, 4-15
setting fill and line color 4-15
Delete command 1-8
Delete Point command
in Plane tool pop-up 5-13
deleting
points 5-13
dialogs
Add Fill 2-13
Blend Elements 3-2
Create Text Element 3-5
dragging 1-11
Element Settings 3-10
entry fields 1-12
Global Preferences 1-11
Image Options 6-3
Item Selector 2-7, 6-1
Line Attributes 2-11
Mask Elements 3-12
Move Elements 3-10
Page Layout 2-1
pop-up slider in 1-12
Preview Curve 6-5
Rotate Elements 2-6
Rotator Options 3-16
Scale Elements 2-5
Selector Options 3-23
Text Along a Path 3-6
Tracing Options 6-4
using 1-10
diamond for Alt key 1-9
diamonds in Item Selector 2-8
direction point 4-4
Directory line
in Item Selector 2-8
double-click
to cancel first anchor point 4-4
to end Quill element 4-3
to set Tracing Options 6-4
with mouse 1-3
drag
dialogs 1-11
to select 1-5
to select anchor points 5-4
with mouse 1-3
drawing
arcs 5-17
circles 2-7

curves 4-3
equilateral triangle 5-18
lines 1-9, 4-2
polygons 4-2
squares 2-4
drawing surface 1-2
Duplicate command 1-7

E

elements
sizing 1-7
EAGLE.IMG file 6-1
editing
tangent lines 5-5
editing curves 5-1
Element Info command 3-10
Element Settings dialog 3-10
elements
blending 3-2
copying 1-6, 1-9
de-selecting 1-5
grouping 2-10
in stacks 2-9
masking 3-8
merging 3-12, 3-13
moving 1-6
open and closed 4-15
resizing 1-6
rotating 3-16
selecting 1-5, 2-9
ungrouping 2-12
ellipse
editing 5-1
tracing 4-13
endpoint
of ellipse 5-9
EPSF format 2-15
erase
keyboard shortcut 1-5
Escape key
to cancel a dialog 1-12
to redraw screen 1-8
exiting
Key Draw! Plus 1-16

F

F4 function key
to select elements 2-9
Fast
redraw speed 1-11
fields
in dialogs 1-12
filename
in title bar 1-2
files
printing 2-15
saving 2-7
fill color
hollow 4-15
with monochrome monitor 2-12
Fill Color tool 2-12
Flipper tool 3-20
Fo's
with fountains 2-2
Fountain tool 2-13
fountains
Fo's in 2-2
in text 3-21
Fountains command 2-2
Full View 1-14
function keys
F4 to select 2-9
in menus 1-9

G

GEM filename extension 2-8
Global Preferences dialog 1-11
Group command 2-10
grouping elements 2-10
Guide Lines command 2-2

H

handles
on selection frame 1-6
hollow
fill color 4-15

I

Image command 6-6
Image Options command 6-3
Image Options dialog 6-3
IMG file extension 6-2
Item Selector dialog 2-7
with Image files 6-1

J

Join Points
with starting and endpoint 5-11
Join Points command
in Plane tool pop-up 5-11
joining
corners 5-20
junction point 4-10

K

keyboard commands
  Alt-D 1-9
KEYDRAW!\ARTWORK directory 2-8
keys
  Alt, with tangent 4-11
  arrow 5-10
  Ctrl 1-9
  Ctrl with Circle tool 2-7
  Ctrl-click to select 2-9
  Escape 1-8, 1-12
  F4 function key 2-9
  for menu commands 1-8
  plus and minus with Magnifier 1-15
  plus and minus with pop-up slider 1-12
  Shift to draw from center 2-7
  Shift with pop-up slider 1-12
  Shift-click to select 2-9
  Shift-F4 to select 2-9
  symbols for 1-9

L

Landscape
  in Page Layout dialog 2-2
layer name
  in title bar 1-2
line
  connect to curve 4-8
  convert to curve 5-15
Line Attributes dialog 2-11
Line Color tool 2-12
Line tool
  options 1-12
  vs. Quill tool 4-1
Line Width pop-up
  No Outline in 3-11
Line Width tool 2-11
lines
  drawing 1-9, 4-2
  setting angles for 1-12
Load Image command 6-1

M

menu bar 1-2, 1-6
  double-clicking 1-12
  techniques 1-3
magnification
  keys 1-15
  tools 1-13
Magnifier tool 1-14
mask background 3-9
Mask command 3-12
mask element
  text as 3-9
Mask Elements dialog 3-12
masking elements 3-8
menu bar 1-2
menu commands
  using 1-7
menus
  drop-down 1-11
  pull-down 1-11
Merge Elements command 3-9, 3-13
merging elements 3-12
minus key
  with Magnifier 1-15
  with pop-up slider 1-12
mirror effect
  with text 3-20
monochrome monitor
  with fill colors 2-12
mouse 1-3
  click 1-3
  double-click 1-3
  drag 1-3
  shift-dragging 1-6
Move command 3-10
Move Elements dialog 3-10
moving
  elements 1-6
moving elements
  with the Plane tool 5-2

N

New command 1-16
No Outline
  in Line Width pop-up 3-11
Normal View 1-14

O

options
  Line tool 1-12

P

Page Layout command 2-1
Plane tool 5-2
Plane tool pop-up menu 5-7
plus key
  with Magnifier 1-15
  with pop-up slider 1-12
point
  adding 5-14

anchor 4-2
corner 4-3
deleting 5-13
direction 4-4
junction 4-10
overlapping 5-8
starting and endpoint 5-8
tangent 4-4
pointer 1-3
points
joining 5-11, 5-12
joining two 5-12
polygons
drawing 4-3
pop-up slider
in dialogs 1-12
PostScript command 2-15
Preferences
command 1-10
Preview Curve dialog 6-5
printing pictures 2-15

Q

Quality
redraw speed 1-11
Quill tool 4-2
vs. Line and Sketch tools 4-1
Quit command 1-17

R

rulers
turning on 2-3
radio buttons
in dialogs 1-11
rectangle
drawing 1-4
Rectangle tool 1-4
redraw screen 1-8
Redraw speed
setting 1-11
Reduced View 1-14
Repeat command 1-8
reset screen defaults 1-16
resizing
elements 1-6
Resizing text 3-11
Rolling Pin tool 3-14
Rotate command 2-6
Rotate Elements dialog 2-6
rotating elements 3-16
Rotator Options dialog 3-16
Rotator tool 3-16
Rulers command 2-3

S

screen 1-12, 1-15
components 1-2
menu bar 1-2
title bar 1-2, 1-3
to view documents 1-15
Save As command 2-7
Save Preferences command 1-12
with Image Options 6-3
saving pictures 2-7
Scale command 2-5
Scale Elements dialog 2-5
screen
clearing 1-16
redraw 1-8
startup 1-1
scroll bars
in window borders 1-16
scrollers
in window borders 1-16
Select All command 2-10
selecting
anchor points 5-2
by dragging 1-5
elements 1-5, 2-9
with Ctrl-click 2-9
with Selector tool 1-5
with the Alt key 3-7
selection frame
on rectangle 1-4
Selector Options dialog 3-23
Selector tool 1-3
Selector tool options 3-23
Send to Back command 3-22
Set Grid command 2-3
shadow effect
with text 3-21
Shift key
in pop-up slider 1-12
symbol for 1-9
to draw from center 2-7
Shift-click
to select 2-9
shift-drag
with mouse 1-6
Shift-F4
to select 2-9
Sketch tool 3-4
vs. Quill tool 4-1

slider—in window border 1-16
Smooth command
in Plane tool pop-up 5-16
Split Element command
with merged text 3-9
with text on a path 3-7
Split Elements command
with mask 3-12
Split Point command
in Plane tool pop-up 5-11
square
drawing 2-4
stacks
of elements 2-9
starting point
of ellipse 5-9
starting screen 1-1
Status Line command 2-2
surround 1-2
symbols
for keys 1-9
Symmetric command
in Plane tool pop-up 5-8, 5-13
symmetric tangent 5-6

T

title bar 1-2
displaying 2-3
setting 1-12
tangent
broken 5-6
changing direction of 4-10
symmetric 5-6
tangent line 4-4
tangent lines
editing 5-5
tangent points 4-4
text
as mask element 3-9
fountains in 3-21
mirror effect with 3-20
resizing 3-11
skewing 3-14
with shadow 3-21
Text Along a Path dialog 3-6
Text Along Path command 3-6
Text tool 3-5
Thumbtack tool 3-19
title bar 1-2
filename 1-2
layer name 1-2
to Curve command
in Plane tool pop-up 5-15
To Line command
in Plane tool pop-up 5-14
To Output command 2-15
tool options
setting 1-12
toolbox 1-2
Toolbox command 2-2
tools
Circle 2-7
Fill Color 2-12
Flipper 3-20
Fountain 2-13
Line Color 2-12
Line Width 2-11
Magnifier 1-14
Plane 5-2
Quill 4-2
Rectangle 1-4
Rolling Pin 3-14
Rotator 3-16
Selector 1-3
Sketch 3-4
Text 3-5
Thumbtack 3-19
Trace 6-4
View 1-13
Trace tool 6-4
tracing
an image file 6-1
stop with spacebar 6-7
Tracing Options dialog 6-4
triangle
equilateral 5-18

U

Undo command
using 2-4
Undo command 1-8
with Plane tool pop-up 5-3
Ungroup command 2-12
UNTITLED
starting screen 1-2

V

View menu
commands in 2-2
view size 1-14
View tool 1-13

W

workspace 1-2

KEY Draw! Plus

User Reference Guide

softkey

Changing The Way America Buys Software

Table of Contents

Preface

Organization of This Guide vi
Conventions vii
Developing Your Own Techniques viii

Introduction to Key *Draw! Plus*

Key *Draw! Plus* Screen 1-1
Basic Mouse Techniques 1-6
Elements 1-7
File Types 1-8
Menus 1-8
Dialogs 1-10
Alerts 1-14
Using the Item Selector 1-15
Choosing a File 1-17
Naming a File 1-17

Toolbox

Selector Tool 2-2
Layer Tool 2-10
View Tool 2-11
Magnifier Tool 2-13
Drawing Tools 2-14
Quill Tool 2-16
Sketch Tool 2-20
Trace Tool 2-21
Text Tool 2-21
Rectangle Tool 2-26
Rounded Rectangle Tool 2-28
Circle Tool 2-28
Line Tool 2-29
Fill Color Tool 2-30
Fountain Tool 2-30
Line Color Tool 2-30
Line Width Tool 2-33
Rotator Tool 2-35
Plane Tool 2-38
Thumbtack 2-45
Flipper 2-46
Rolling Pin 2-47

File Menu

New Command 3-2
Open Command 3-2
Merge File Command 3-3
Save Command 3-4
Save As Command 3-4
Export Command 3-5
Abandon Command 3-7
Page Layout Command 3-7
PostScript Command 3-10
To App Command 3-16
To Output Command 3-18
Quit Command 3-18

Image Menu

Load Image Command 4-1
Unload Image Command 4-2
Image Options Command 4-2

View Menu

Toggles 5-1
Image Command 5-1
Colors Command 5-2
Fountains Command 5-2
Rulers Command 5-3
Status Line Command 5-3
Grid Command 5-4
Snap to Grid Command 5-4
Set Grid Command 5-5
Guide Lines Command 5-5
Set Guide Lines Command 5-6
Toolbox Command 5-6

Element Menu

Send to Back Command 6-1
Bring to Front Command 6-2
Step in Back Command 6-2
Step in Front Command 6-2
Lock Command 6-4
Unlock Command 6-4
Group Command 6-4
Ungroup Command 6-6
Align to Grid Command 6-6
Align Command 6-7
Element Info Command 6-8

Edit Menu

Undo Command 7-1
Cut Command 7-1
Copy Command 7-2
Paste Command 7-2
Delete Command 7-3
Select All Command 7-3
Duplicate Command 7-3
Clone Command 7-3
Move Command 7-4
Rotate Command 7-4
Scale Command 7-6
Repeat Command 7-8

Combine Menu

Mask Command 8-1
Merge Elements Command 8-3
Blend Command 8-6
Text Along Path Command 8-11
Convert to Curves Command 8-14
Split Element Command 8-15

Options Menu

Preferences Command 9-1
Save Preferences Command 9-3
Layer Manager Command 9-4
Color Manager Command 9-5
Font Manager 9-5
Tools Manager Command 9-8

Layers

Layer Tool and Layer Manager 10-1
Slides 10-6
Layer Manager Command Reference 10-9
Edit Menu 10-9
Display Menu 10-11

Image Tracing

Image Files and Vector Files 11-1
Autotracing and Hand Tracing 11-1
Loading Images 11-2
Image Options 11-3
Autotracing 11-5
Hand Tracing 11-12

12 Color Manager

Colors and Fountains 12-1
Color Models 12-3
Creating and Modifying Colors 12-6
Creating and Modifying Fountains 12-8
Creating Color Files 12-13
PANTONE Colors 12-13
PANTONE Files 12-14
File Menu 12-15
Edit Menu 12-16
View Menu 12-17

13 Tools Manager

Tools Manager Functions 13-1
Tools Files 13-2
Toolbox Design 13-2
Custom Tools 13-3
Standard Tools 13-3
Menu Tools 13-4
Container Tools 13-4
Creating Tools 13-5
Tool Attributes 13-6
Icon Editor 13-8
Tools Manager Command Reference 13-13
File Menu 13-13
Edit Menu 13-14

A Resident PostScript Fonts

B Key *Draw! Plus* and Memory

Memory and Disk Requirements B-1
Expanded Memory B-2
Paging Files B-2
Memory Status B-3

C Custom Toolboxes

1_COLUMN.TLS C-2
4_COLUMN.TLS C-3
ALIGN.TLS C-4
CUSTOM.TLS C-6
TRACE.TLS C-8

Index Index-i

Preface

The **Key *Draw! Plus*** User Reference Guide provides detailed descriptions of the many features of Version 2.01 of **Key *Draw! Plus***, the most productive graphics illustration program for the IBM® PC, Compaq®, and other PC-compatible computers.

Key *Draw! Plus* offers features and speed, which, combined with your own creativity, add up to outstanding graphics for business and design professionals, full-time or part-time—someone like you, who needs a full range of tools for any kind of design challenge.

Key *Draw! Plus*, Version 2.01, is an entirely new program, although it shares some features with its predecessor. New features in this version of **Key *Draw! Plus*** include:

- interactive autotracing
- layers
- custom tools
- custom color management
- full PostScript® font support
- masking, merging, and blends
- text along a path
- extensive clip art selection

Organization of This Guide

The **Key *Draw! Plus*** User Reference Guide is not meant to be read from beginning to end. It is intended primarily to be used as a "dictionary," to look things up as questions arise. Using the Index and the chapter listings in the Contents, you should be able to find the information you need at the moment you need it.

The following is an overview of the contents of the **Key *Draw! Plus*** User Reference Guide:

- Chapter 1, "Introduction to **Key *Draw! Plus*,**" describes several of the basic features and concepts used in **Key *Draw! Plus***.
  If you have used other programs with a similar user interface—some of the information in this chapter may be familiar to you. However, make sure you are familiar with *all* the material in this chapter, as several of the key features are new and unique to this version of **Key *Draw! Plus***.
- Chapter 2 describes the tools in the **Key *Draw! Plus*** toolbox. These are the tools you use to draw, enter text, assign and create colors, and perform many of the special graphics editing functions of the program.
- Chapters 3 through 9 describe the commands in each of **Key *Draw! Plus*'s** menus. Each menu has a chapter to itself.
- Chapters 10 through 13 describe additional important features of **Key *Draw! Plus***: layers, autotracing, color management, and tools creation and management.
- Appendix A lists the names of the **Key *Draw! Plus*** fonts that correspond to the resident PostScript fonts.
- Appendix B describes how **Key *Draw! Plus*** uses memory. Note that expanded memory (EMS) is *not* required for tracing.
- Appendix C illustrates and describes the custom toolboxes provided with **Key *Draw! Plus***.

Conventions

This section describes the notational conventions employed in the **Key *Draw! Plus*** User Reference Guide.

Bullets

Bullets (❑) set off a list of items or a set of equally valid options or choices. Bullets do *not* indicate a sequence of steps to be followed.

Instructions

Instructions are preceded by a brief statement of what you will be doing, followed by a single instruction, bullets (indicating options), or a numbered sequence of steps. Below are examples of the three possibilities.

To do this action:

Single step.

You can do only this one thing.

To do this action:

Options. You can do either one.

- ➢You can do option #1.
- ➢You can do option #2.

To do this action:

Sequence of steps.

1. You must do this step first.
2. You must do this step next.
3. You must do this step third in the sequence.

Return Key Symbol

The symbol ↵ represents the computer's **Return** (or **Enter**) key.

Marginal Notations

The guide frequently uses marginal notations (like those used above) to provide additional information, supplementing the information contained in the main text body.

Developing Your Own Techniques

The **Key *Draw! Plus*** User Reference Guide provides specific instructions on how to do many things with **Key *Draw! Plus***, Version 2.01. However, as you gain familiarity with the program, you will certainly develop your own techniques. Feel free to experiment and to learn.

One word of caution (if you're an experienced user, you don't need to be reminded of this): *save your files* before you branch off into uncharted waters.

Bon Voyage

Welcome to **Key *Draw! Plus***, Version 2.01.

We hope you find this exciting program the perfect outlet and the ideal medium for your creative work.

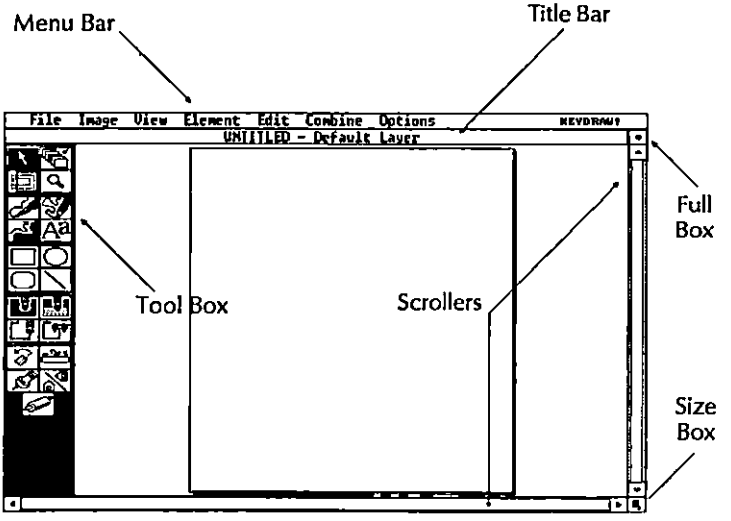
Introduction to Key *Draw! Plus*

This chapter describes some of the basic concepts, terms, and techniques that apply throughout **Key *Draw! Plus***, including:

- components of the **Key *Draw! Plus*** screen
- basic mouse techniques
- elements
- file types
- menus
- dialogs and alerts
- the Item Selector

Key *Draw! Plus* Screen

This section describes the components of **Key *Draw! Plus***'s screen as it appears when you first start the program.



Key *Draw! Plus* Window

The **Key *Draw! Plus*** screen includes a *window* that can be moved and whose size can be changed. The window is bordered by the title bar, toolbox, and scrollers.

Toolbox

The toolbox contains *icons* (pictures) of the tools with which you can draw and manipulate the elements that make up your **Key *Draw! Plus*** pictures.

The standard **Key *Draw! Plus*** toolbox is described in Chapter 2.

You can also use **Key *Draw! Plus***'s Tools Manager to create your own custom tools and save custom toolboxes. The Tools Manager is described in Chapter 13.

Menu Bar

The menu bar contains the names of **Key *Draw! Plus***'s command menus.

Basic menu techniques are described on page 1-12. The commands in each menu are described in Chapters 3 through 9.

Title Bar

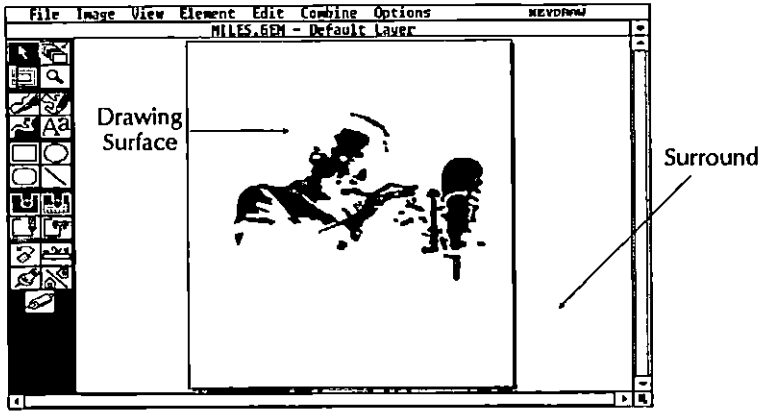
The title bar contains the name of the file currently open on the drawing surface.

If you have not opened a file or have not named the picture you are working on, the title bar reads UNTITLED.

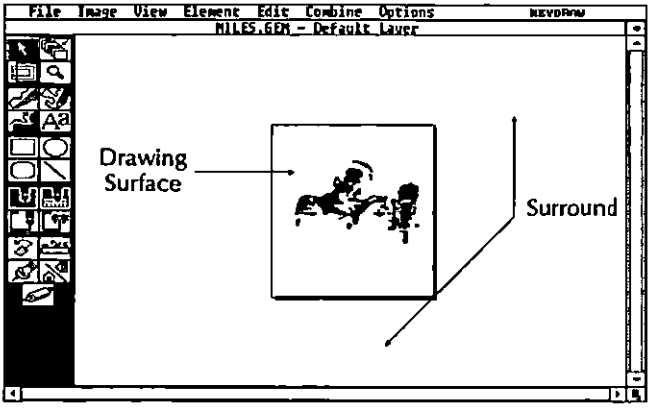
The title bar also lists the name of the picture's active layer. Layers are described in Chapter 10.

Moving the Window

You can move the window down or to the right. To move the window, drag the title bar. You cannot move the window off the left side of the screen or up into the menu bar.



In the previous and following figures, the workspace entirely encloses the drawing surface.



Workspace, Drawing Surface, and Surround

The *workspace* and the *drawing surface* are not the same thing. One way of stating it is that you draw *in* the workspace, but you draw *on* the drawing surface.

The workspace is the area of the screen enclosed by the title bar, toolbox, and scrollers. It is like a frame, through which you view the drawing surface.

The drawing surface is where your picture is actually created, like a piece of paper of certain dimensions.

The *surround* is the area surrounding the drawing surface. You can place elements and reference points like the Thumbtack in the surround.

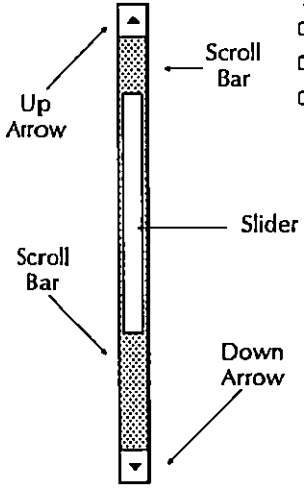
The amount of drawing surface visible in the workspace at a given time can vary considerably. You can zoom in so that only a small portion of the drawing surface is visible, and you can zoom out so that the entire drawing surface is visible.

In this view (please see overleaf), the workspace encloses only a portion of the drawing suface.

Scrollers

NOTE: You can also scroll lists in several dialogs using the same techniques.

Scrolling is only meaningful when some of the drawing surface is not visible in the workspace. In that case—for example, when you have zoomed in on the drawing surface—the scrollers allow you to bring other parts of the drawing surface into view in the workspace frame.



The scrollers consist of:

- arrows (up and down, left and right);
- scroll bars;
- sliders.

Arrows

To scroll a small, fixed distance in a given direction, click on the appropriate arrow. For example, to scroll toward the top of the drawing surface, click on the up-arrow.

Scroll Bars

To scroll a larger distance (roughly one screen's worth) in a given direction, click on the scroll bar.

Sliders

The sliders serve two purposes:

- They allow you to scroll as much or as little as you like. To use a slider, drag it in the direction you want to scroll. For example, you can use the vertical slider to scroll quickly to the top or bottom of the drawing surface, or you can use it to adjust the position of the drawing surface in the workspace.
- They also indicate how much of the drawing surface is visible in the workspace. If the slider entirely fills the scroll bar, the drawing surface is entirely visible in that direction. If the slider half fills the scroll bar, half of the drawing surface is visible in that direction.

Size Box

By dragging the size box, you can change the window's size, making it smaller or larger.

Full Box

Clicking on the full box returns a window to its full-screen size.

Basic Mouse Techniques

If you are familiar with these techniques, you can skip this section.

Key ***Draw! Plus*** uses three basic mouse techniques:

- click
- double-click
- drag

NOTE: All three techniques use only the left button of the mouse.

Click

To *click* the mouse, press and immediately release the left button.

In **Key *Draw! Plus***, clicking is used for selecting elements and tools, choosing commands, selecting options in dialogs, and many other tasks. The click affects whatever is directly under the tip of the mouse pointer.

Double-Click

To *double-click* the mouse, press and release the left button twice in rapid succession.

In **Key *Draw! Plus***, double-clicking is used for selecting files, displaying tool options dialogs, and a variety of other tasks. The double-click affects whatever is directly under the tip of the mouse pointer.

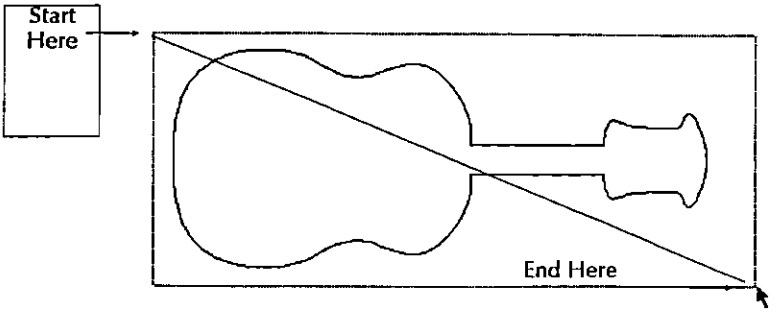
Drag

Dragging is a technique that is used for—among other things—drawing with **Key *Draw! Plus***'s drawing tools, placing a selection frame around elements, and moving elements.

To drag with the mouse:

1. With the pointer at the starting point (see the illustration below), press and hold down the left button.
2. With the button still down, move the mouse to the end point.
3. Release the mouse button.

In this case, the mouse pointer has dragged a selection frame around the drawing of a guitar.



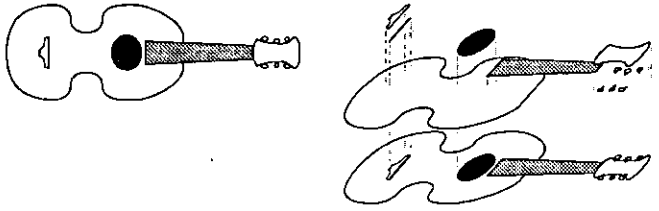
Elements

The individual pieces of the pictures you create in **Key *Draw! Plus*** are *elements.*

Elements can range from simple geometric shapes like circles and squares to complex forms made of connected lines and curves. Text characters are one example of the more complex kinds of elements.

Stacks

In most respects, the drawing surface is like a sheet of paper. However, it differs from a sheet of paper in that the elements in your picture sit on the drawing surface in a *stack,* one element on top of another. Each time you add a new element, it is placed on top of the stack.



The only time you really need be concerned with elements stacks is when elements overlap each other (see the exploded view of the guitar above). In that case, the position of an element in the stack determines how you select it (described in Chapter 2). In addition, you can change the position of the element in the stack (Chapter 6).

File Types

Key *Draw! Plus* uses many different extensions to identify the kinds of files associated with the program. The following table gives a brief description of each file type.

extension	description
.GEM	A **Key *Draw! Plus*** picture file. Also an exported file format. Several other programs create files with the .GEM extension.
.COL	A color palette file.
.TLS	A tools file.
.IMG, .TIF, .PCX	An image format valid for tracing.
.C00	The PostScript **File** output format.
.EPS	Encapsulated PostScript. A file format intended for inclusion in desktop publishing documents.
.GMP	An exported multiple-page format.
.AF4	The **Key *Draw! Plus*** font file format. Do not confuse with .AFF, the GEM **Key *Draw! Plus*** font file format. See the **Key *Draw! Plus*** Utilities Guide.

Menus

This section describes some of the basic **Key *Draw! Plus*** menu command techniques, including:

- displaying menus
- choosing commands
- keyboard commands

Chapters 3 through 9 describe the commands in each of the menus.

Displaying Menus and Choosing Commands

A command followed by three dots (like **Export...***) displays a dialog.*

To display menus and choose commands, move the pointer to the menu bar. Depending on your choice in the Preferences dialog (see the description of the **Preferences** command in Chapter 9), the menus can operate as either *drop-down* or *pull-down* menus.

Drop-Down Menus

To display the menu, touch the menu's name with the pointer. The menu automatically drops down from the menu bar.

To choose a command, click on its name in the menu.

Pull-Down Menus

When menus are set to Pull-Down, you can display menus and choose commands in either of two ways:

- Click on the menu name to make the menu appear and then click on the command name.
- Press and hold down the mouse button over the menu name, and then drag through the menu until the command you want is highlighted (white letters on a black background). To choose the command, release the mouse button over the highlighted command name.

"Undisplaying" Menus

If you accidentally display a menu (often because your menu preference is set to Drop-Down and you've made a random mouse excursion into the menu bar), move the pointer out of the menu and click. The menu will go away, and you will not inadvertently execute a command.

Unavailable Commands

Commands that are dimmed (that don't become highlighted) are *unavailable* and cannot be selected. A command is unavailable when its action is not meaningful.

For example, if you have not grouped any elements, the **Ungroup** command (Element menu) is unavailable because there is nothing to ungroup.

Keyboard Commands

You can choose many of **Key *Draw! Plus***'s commands directly from the keyboard. These *keyboard commands* are listed in the menu to the right of the command name. The **Ctrl** key is represented by a caret (^); the **[Alt]** key is represented by a diamond (♦).

For example, the keyboard equivalent of the **New** command is ^W, which means you hold down the **[Ctrl]** key as you press **[W]**. The keyboard command for **Cut** is ♦**X**–hold down the **[Alt]** key as you press **[X]**.

If a menu command is unavailable, its keyboard equivalent is also unavailable.

Dialogs

A *dialog* is a box that appears on the screen, often when you choose a command. Dialogs are used for many purposes, including specifying the size and orientation of your page, creating colors, and moving or scaling elements by precise amounts.

This section describes these components of dialogs:

- radio buttons
- check boxes
- direct entry fields
- pop-up sliders
- pop-up menus
- exit buttons

Radio Buttons

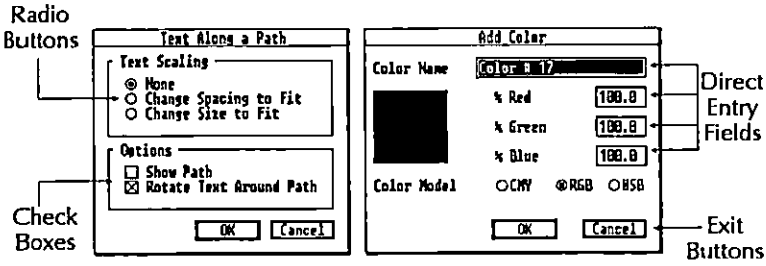
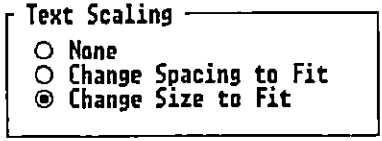


Fig: 1-1

Radio buttons are so named because they resemble the station selector buttons on a car radio. One button must always be chosen, and choosing a new button automatically cancels the previous choice.

Radio buttons are identified by a circle. The selected option is indicated by the solid dot inside the circle.

In the Text Along a Path dialog illustrated above, there are three Text Scaling options: None, Change Spacing to Fit, and Change Size to Fit. In the illustration the None option is selected. If you click on Change Size to Fit, the dot moves to indicate your new selection (see below).



Check Boxes

A *check box* is like a light switch: it turns something on and off.

Check boxes are identified by a square. When the check box is turned on, the square is filled with an X.

☒ **Show Path** ☐ **Show Path**

In the Text Along a Path dialog illustrated on the previous page, there are two check boxes—one for Show Path and the other for Rotate Text Around Path. Either state can be on or off completely independently of the other. For example, turning the Show Path option on has no effect on whether the text is oriented to the path.

Direct Entry Fields

To clear a direct entry field, press **[Shift] [Del]**.

A *direct entry field* is one in which you can type directly into the field. As soon as you start typing, the field is automatically cleared, and your entry appears.

Active Field

The *active* field is the one in which your entry appears. Only one direct entry field can be active at a time.

On color screens the active field is identified by a light blue background. On monochrome screens ("black and white"), the active field has white letters or numbers on a black background.

Moving From Field to Field

You can make another field active by:

- clicking on it with the mouse;
- pressing the **[Tab]** or down-arrow key to move to the next field; pressing the up-arrow key to move to the previous field.

Types

There are two kinds of direct entry fields: text and numerical. Each type is represented in the illustration of the Add Color dialog.

- Color Name is a text direct entry field; it accepts text—letters or numbers.

Some numerical direct entry fields accept negative values.

- % Red, % Green, and % Blue are all numerical direct entry fields. They accept numbers only.
- Numerical direct entry fields are associated with pop-up sliders, described on page 1-17.

NOTE: The range of values accepted by numerical direct entry fields varies according to the field's function. If you type a value that is too large or too small for the given field, ***Key Draw! Plus*** *displays an alert and then automatically resets the value to the allowed maximum or minimum.*

Text Field Editing Keys

To move the cursor in a text direct entry field, press the left-arrow or right-arrow keys on the numeric keypad. To delete the character to the left of the cursor, press the Backspace key.

Numerical Field Editing Keys

You can change the value in an active numerical field by pressing these keys:

- The plus (+) key on the numeric keypad increases the value; the minus (-) key decreases the value. The amount of change varies from one field to another, depending on the field's range of values.

  Holding down the **Shift** key as you press the plus or minus key changes the value by a smaller amount.

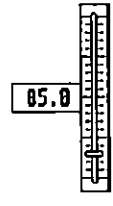
- The **[PgUp]** key automatically sets a field to its maximum value; the **[PgDn]** key sets the field to its minimum value. If the field is already set to its maximum or minimum, the key clears the field instead.

Pop-up Sliders

You can also enter values into numerical direct entry fields by using the *pop-up sliders.*

To display a pop-up slider, move the pointer to the field you want and press the mouse button.

As you drag the pop-up slider's handlebar, the values appear in the field.



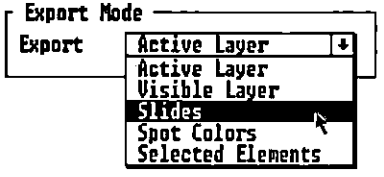
NOTE: A field does not have to be active for you to use a pop-up slider.

If you press the **[Shift]** key as you drag the slider, the values change by smaller increments.

In most cases the pop-up sliders can enter values only in set increments—like 10%, 20%, 30%, and so on. To enter a value of 18%, you must type it into the field.

Pop-up Menus

Many dialogs also use *pop-up menus* to offer a choice of several options. Pop-up menus are identified by a downward-pointing arrow at the right end of the menu bar.



To display a pop-up menu and choose an option, you can:

- click on the pop-up menu bar (to display the menu) and then click on the option you want;
- press and hold down the mouse button over the menu bar (display the menu), move the pointer through the menu to highlight your choice, and then release the mouse button.

Exit Buttons

Each dialog has a pair of *exit buttons*—labeled OK and Cancel—with which you close the dialog.

If you click on the OK button, the options and values in the dialog are put into effect.

If you click on the Cancel button, the options and values in the dialog are discarded and nothing is changed.

Exit Button Keystrokes

In addition to clicking on an exit button with the mouse, you can use the keyboard to exit **Key *Draw! Plus***'s dialogs.

- To choose an exit button that has a heavy outline (usually the OK button), press ↵.
- To choose the Cancel button, press the **[Esc]** key.

Layer Manager, Color Manager, and Tools Manager

The Layer Manager, Color Manager, and Tools Manager are special kinds of dialogs that have menus instead of exit buttons. To close these dialogs, choose the menu **Close** command or click on the dialog's close box.

NOTE: In this guide, the phrase "exit the dialog" indicates that you should accept the settings in the dialog and exit, usually by clicking on OK or pressing ↵.

Moving Dialog Boxes

You can move dialog boxes so you can see the drawing surface underneath.

To Move A Dialog Box:

You can only move dialogs that have a title bar. You cannot, for example, move the Item Selector.

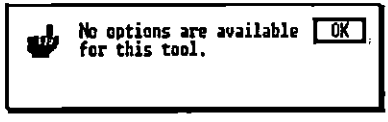
Place the pointer on the dialog's title bar and drag the dialog where you want it.

The next time you display that dialog *in the current* **Key *Draw! Plus*** work session, it will appear where you last left it. The next time you start **Key *Draw! Plus***, the dialog will appear in its default location.

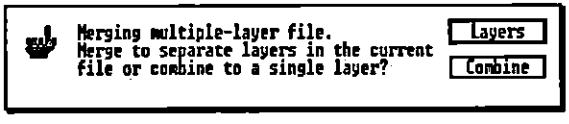
Alerts

Key *Draw! Plus* uses *alerts* to display error messages and messages requesting additional information or instructions.

Error Message Alert



Information Alert



Exit Buttons

To exit an alert, click on the appropriate exit button or use the keyboard as follows:

- To choose an exit button that has a heavy outline (usually the OK button), press ↵.
- To choose the Cancel button, press the **[Esc]** key.

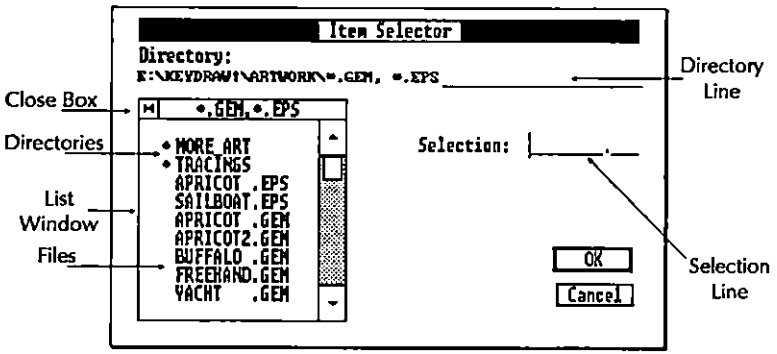
Using the Item Selector

If you have used the Item Selector in other programs, you can skip this section.

The Item Selector is a special dialog used for opening, loading, and naming files. The Item Selector is displayed by several commands, including:

- **Open** (File menu)
- **Save As** (File menu)
- **Load Image** (Image menu)
- **Save As** (Color Manager's File menu)
- **Save As** (Tools Manager's File menu)

The following illustration shows the Item Selector and its components:



List Window and Directory Line

The list window identifies the subdirectories and files contained in the current directory. Subdirectory names (if any) always appear first in the list and are marked with a diamond.

The Directory line identifies:

- the current disk drive;
- the current directory;
- the filename and extension specification for the names listed in the window. For example, the Directory line

  C:\KEYDRAW!\ARTWORK*.GEM,*.EPS

  tells you that the list window contains the names of all files with the .GEM or .EPS extension in the directory \KEYDRAW!\ARTWORK on drive C.

The list window can display nine names at a time. You can scroll the window with the arrows, scroll bars, and slider (see page 1-6).

Wildcards You can use the asterisk or question mark *wildcard* characters in the filename or extension specification. The asterisk wildcard takes the place of as many as eight characters; the question mark wildcard takes the place of a single character.

wildcard	what it means
B*.GEM	all .GEM files whose filename starts with B, like B.GEM, BEAR.GEM, or BROTHERS.GEM
*.?OL	all files with a three-character extension ending with "OL"

Editing Keys When the Item Selector first appears after you choose a command, its text cursor is in the Selection line. To move the cursor to the Directory line, you can:

- click on the Directory line;
- press the up-arrow key.

To move the cursor in the Directory line, use the left-arrow and right-arrow keys. To delete characters, use the Backspace and **[Del]** keys. To clear the entire line, press **[Shift]** **[Del]**.

Changing the Directory Path

To open or load a file from a directory or disk other than the current one, or to save a picture to another directory or disk, you must first change the directory path in the Item Selector.

NOTE: For information on directory structure, consult your operating system manual.

- To move down a level in the *directory tree*, to a subdirectory below the current directory, click on the subdirectory's name in the list window.
- To move up, toward the *root directory*, click on the Item Selector's close box. Each click on the close box moves you up one level in the directory tree.
- To change to another disk drive, go to the root directory and then click on the close box once more. The disk drive identifiers now appear in the list window.

Click on the identifier for the disk you want. The contents of that disk's root directory will appear in the list window. You can then click on subdirectory names to move down the directory tree of the new disk.

Choosing a File

When opening or loading a file, you must choose its name from the current directory in the Item Selector. There are three ways you can do this:

- Double-click on the file's name in the list window. The name is chosen, and you automatically exit the Item Selector. This is usually the fastest way to choose a name.

  If the name is not initially visible in the list window, scroll the window to bring the name into view.
- Click on the file's name in the list window to make the name appear in the Item Selector's Selection line. To put this selection into effect, press ↵.
- Type the filename into the Selection line and then press ↵.

Naming a File

When providing a name for a new file the first time you save, you must type the name into the Selection line.

You need not, however, type the extension. When saving a picture file for the first time, **Key *Draw! Plus*** automatically supplies the .GEM extension. Similarly, these other extensions are automatically supplied: .C00 or .EPS (PostScript file output, depending on the format chosen), .COL (color files), .TLS (tools files), and .GMP (exported multiple-page files).

Hiding the Toolbox

To make a larger workspace available, you can "hide" the toolbox so that it no longer appears on the screen.

> Before turning off the toolbox, select the tool you will be using.

To hide the toolbox, choose the **Toolbox** command from the View menu. To re-display the toolbox (to select a tool, for example), choose the **Toolbox** command again.

Selector Tool

The Selector tool's functions include:

- selecting elements;
- scaling elements (changing their size);
- moving elements;
- copying elements;
- moving the guide lines.

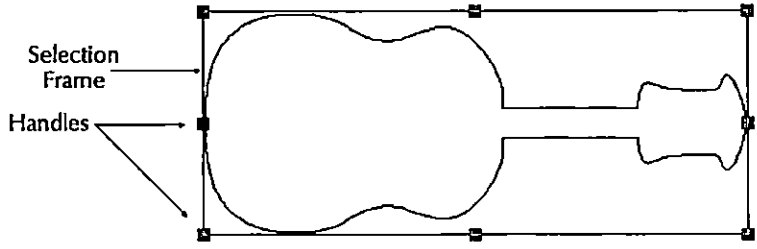
Selecting Elements

> The table on page 2-5 lists all the techniques for selecting elements.

Many of **Key *Draw! Plus***'s functions require that elements first be *selected*. For example, you must select an element before you can:

- change its fill color or line color;
- copy it;
- delete it;
- move it to the foreground or background.

A selected element is identified by a *selection frame* with *handles* at the corners and midpoints.

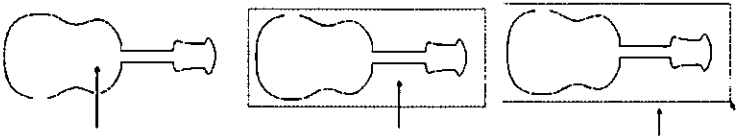


To select a single element

> If your picture is divided into layers, you can select elements only in the active layer.

- Click on the element or anywhere within the area of its selection frame.

  If you click on an element that is one of several elements that are already selected, the other elements are automatically de-selected.



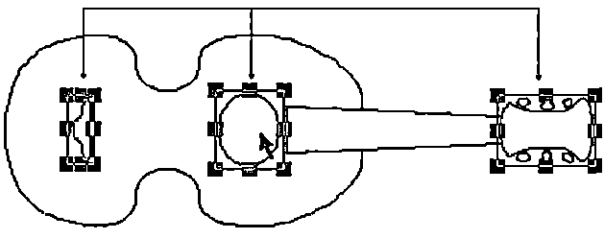
Click on the element. Click inside the frame. Drag a selector Box

- Drag a selector box around the element.

To select more than one element

- Drag a selector box around the elements.
- If a selector box would enclose elements you do not want, *Shift-click* to select the elements you want.

Hold down the Shift key as you click on each element individually.



NOTE: When two elements exactly coincide—for example, a circle inscribed in a square—their selection frames visually cancel each other out, even though the elements are selected. This effect is true for all even numbers of coincident selected elements. For odd numbers of coincident selected elements, the selection frames are visible.

To select the element on the bottom of the stack:

[Ctrl] *click* on the element—hold down the **[Ctrl]** key as you click on the element.

To select all elements on the drawing surface:

Choose the **Select All** command from the Edit menu. The Selector tool does not have to be highlighted when you choose the **Select All** command.

Selecting Overlapping Elements

When elements overlap, the topmost element at the point where you click is always selected. If this element's selection frame entirely encloses the selection frames of the elements underneath, there is a special technique for selecting the other elements.

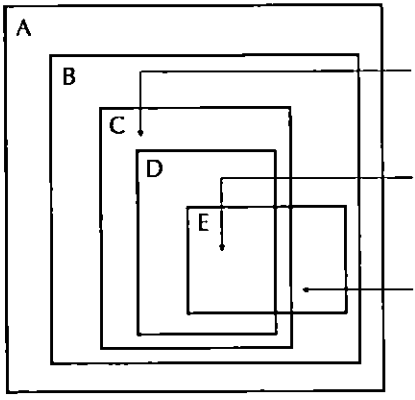
To select an element lower in the stack:

> This technique works only if you select the first element with a click or **[Ctrl] Click.**

Press the **[F4]** key. The **[F4]** key "steps" the Selector down through the stack, selecting only those elements *directly under the tip of the Selector arrow* at the time you click.

If you select the bottom element in the stack with **[Ctrl] click,** the **[F4]** key selects upward.

In the illustration below, element A is on top and is the first element selected in each case.



If you click here, the **[F4]** *key selects element C. These are the only elements under the selector arrow.*

If you click here, the **[F4]** *key selects element B, then C, D, and E. All five elements are under the selector.*

If you click here, the **[F4]** *key selects element B and then skips to element E. Elements C and D are not selected because they are not under the selector arrow.*

Selection Techniques

The following table describes all the ways you can select elements.

techniques for selecting elements	
click	Selects the element whose selection frame is under the tip of the pointer. If more than one element, selects the topmost.
[Ctrl] click	Selects the element on the bottom of the stack under the tip of the pointer.
selector box	Selects all elements whose selection frames fall entirely within the selector box.
[Shift] click	Selects additional non-overlapping elements individually.
[F4]	Selects the next element under the point at which you clicked. If starting from the top of the stack, F4 selects downward; if starting from the bottom, F4 selects upward. In either case, the previous element is de-selected.
[Shift] [F4]	Selects additional elements toward the bottom or top of the stack.
[Ctrl] [Shift] click	Selects additional overlapping elements individually.
[Shift] drag	Adds elements enclosed within selector box to current selection.
[Alt] click	Makes a selected tool function as a Selector. See descriptions of individual tools.

De-selecting Elements

You will often need to *de-select* elements, so that they are no longer selected.

To de-select all elements:

1. Click on the Selector tool.
2. Click in an empty part of the workspace, including the area surrounding the drawing surface. As long as you are not clicking inside an element's selection frame, all elements are de-selected.
   If you have zoomed in on the drawing surface, you can de-select elements without zooming out. Display the status line (see the description of the **Status Line** command on page 5-4) and then press the **[F4]** key until the status line indicates that no elements are selected.

To de-select individual elements:

Shift-click on the elements you want to de-select.

Scaling Elements

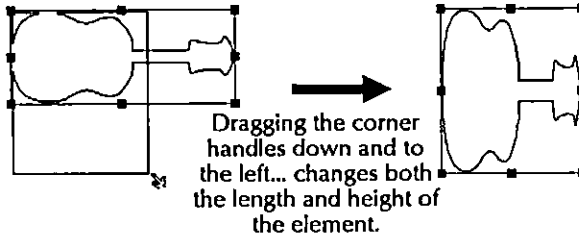
You can *scale* a selected element with the Selector—making it larger or smaller.

To scale an element with the Selector:

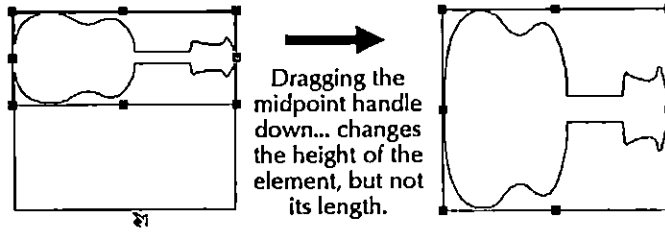
The Selector arrow changes to a hand with a pointing finger.

Drag a corner or midpoint handle on the element.

- Dragging a corner handle scales in two dimensions.
- Dragging a midpoint handle scales in one dimension only, either vertically or horizontally.



Dragging the corner handles down and to the left... changes both the length and height of the element.



Dragging the midpoint handle down... changes the height of the element, but not its length.

When more than one element is selected, the other elements are not scaled, but they remain selected.

You can also scale elements with the **Scale** command in the Edit menu and the **Element Info** command in the Element menu.

To scale more than one element, use the **Scale** command, or group the elements and then drag one of the handles on the selection frame enclosing the group.

Status Line The status line displays scaling percentages.

Moving Elements

Using the Selector, you can move selected elements to a different position in the workspace.

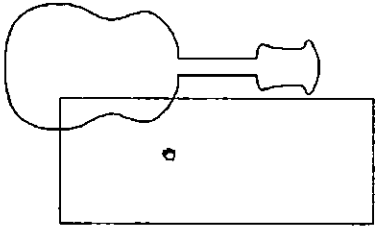
To move elements with the Selector:

1. Place the pointer inside the selection frame of one of the selected elements.

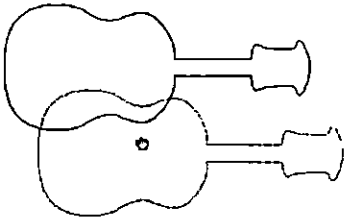
   The Selector arrow changes to an open hand.

2. Drag the elements to their new position.

You can move elements as selection frames or outlines. See the description of the Selector Options in this chapter.



moving as selection frame



moving as outline

You can also move elements with the **Move** command and the **Element Info** command.

Status Line The status line displays the changes in the mouse's position as you drag the elements.

Copying Elements

Using the Selector, you can copy selected elements.

To copy elements with the Selector:

1. Press and hold down the **[Shift]** key.

   When the pointer changes to an open hand, you can release the **[Shift]** *key.*

2. Place the pointer inside the selection frame of one of the selected elements. Press and hold down the mouse button.
3. Drag the elements' selection frames or outlines to where you want the copies.
4. Release the mouse button.
5. The original elements remain where they were, and the copies appear at the new position.

The table below lists all the ways you can copy elements.

techniques for copying elements	
command or tool	**result**
Duplicate command (Edit menu)	Copies selected elements one grid increment below and to the right of originals.
Clone command (Edit menu)	Copies selected elements directly on top of originals.
Copy command (Edit menu)	Copies selected elements to paste buffer.
Selector tool (**Shift** key held down)	Copies selected elements to position at which mouse button is released.
Rotator tool (**Shift** key held down)	Makes rotated copies.
Flipper tool (**Shift** key held down)	Makes flipped copies.
Move command (Make Copy turned on)	Makes copies moved by distance specified in dialog.
Scale command (Make Copy turned on)	Makes copies scaled by percentage specified in dialog.
Rotate command (Make Copy turned on)	Makes copies rotated by angle specified in dialog.

Moving the Guide Lines

> The guide lines are described in chapter 5.

You can use *guide lines*:

- to align elements on the drawing surface;
- as a reference point for rotating and scaling elements.

To move the guide lines with the Selector:

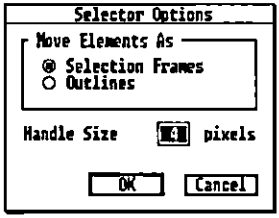
Place the tip of the pointer on the guide line you want to move, and drag the guide line where you want it. The status line displays the guide line's position as you drag it.

For the greatest accuracy in placing the guide lines, use the **Set Guide Lines** command.

Selector Options

> Your choices depend on personal preference and the task you are trying to accomplish.

Double-clicking on the Selector tool displays the Selector Options dialog:



Move Elements As

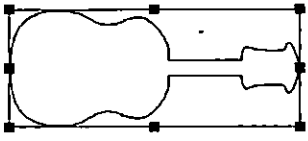
This option determines how a moving element is drawn on the screen. See the illustration on page 2-7.

Selection Frames The element's position is indicated by its selection frame.

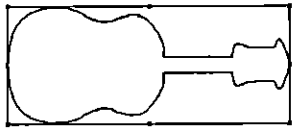
Outlines The element's position is indicated by its outline. Of the two options, Selection Frames is suited to moving complex elements or text elements. The Outlines option is preferable when accuracy of position is desired.

Handle Size

This option sets the size of the handles in an element's selection frame, ranging from two to eight pixels.



2 pixels



8 pixels

Using Other Tools as a Selector

You can use any of the tools listed below as a Selector by holding down the **[Alt]** key. For example, **[Alt]** click with the Magnifier selects an element; **[Alt]** drag with the Rotator selects or moves an element or changes its size (depending on where you place the pointer).

The **[Alt]** key turns the following tools into a Selector:

- Magnifier
- Sketch tool
- Trace tool (only after an image is loaded)
- Text tool
- Rectangle tool
- Circle tool

- Rounded Rectangle tool
- Line tool
- Rotator
- Thumbtack
- Flipper
- Rolling Pin

*NOTE: One Selector technique is not available for these tools—***[Ctrl]***-click to select the element at the bottom of the stack. The* **[Alt]** *and* **[Ctrl]** *keys convert any of the tools listed above to a Magnifier.*

Layer Tool

The Layer tool displays a pop-up menu from which you can select an active layer or add a new layer to your picture. Layers are described fully in Chapter 10.

Active Layer

> The name of the active layer appears in the window's title bar.

In a picture that has more than one layer, you can only work in one layer at a time—the *active* layer.

To make a layer the active layer:

1. Click on the Layer tool. A menu of layer names is displayed.
2. In the pop-up menu, click on the name of the layer you want to make the active layer.

You can also activate layers by pressing the **[PgUp]** or **[PgDn]** keys.

Adding Layers

To add a new layer:

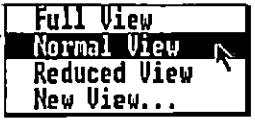
1. Click on the Layer tool.
2. In the pop-up menu, click on the **New Layer** option. The Add Layer dialog is displayed.
3. Type a name for the new layer and exit the dialog.

The Add Layer dialog contains additional options for creating slides. These options are described in chapter 10.

NOTE: Merging a file into your current file always creates at least one new layer. See the description of the **Merge File** *command in chapter 3.*

View Tool

The View tool displays a pop-up menu from which you can select a view of the drawing surface—one of three preset views or a "custom" view you have defined.



To select a view:

Click on the View tool to display the pop-up menu of available views and choose the name of the view you want.

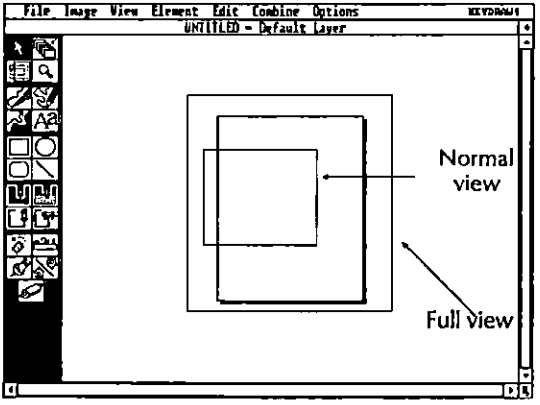
The **New View** option is for defining your own views. See "Custom Views".

Preset Views

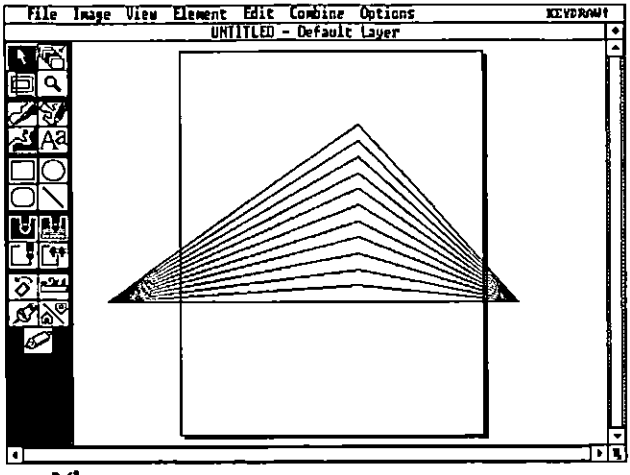
Three preset views of the drawing surface are available:

Full View	The entire drawing surface appears in the workspace.
Normal View	Normal View shows about one quarter of a standard letter size page in the workspace. See the illustration on the next page.
Reduced View	The drawing surface is centered in the workspace with space around it on all sides. You can drag elements partially or entirely off the drawing surface and place them in this surrounding space.

The following illustrations show the three preset views and one possible use of the surround.



You can use the surround to drag the direction lines of large curves, as a temporary holding place for elements, or to create a perspective grid, as in the illustration below.



Custom Views

With the View tool's **New View** option, you can define and save views of specific parts of each picture.

To define a custom view:

1. Use the Magnifier (described next) or the scrollers (or both) to bring a particular part of your drawing into the workspace.
2. Click on the View tool.
3. In the View tool pop-up, click on **New View.**
4. In the New View dialog, enter a name for this view and exit the dialog.

> Views created with the **New View** option are saved with the file.

The new view name now appears in the View tool pop-up. To return to this exact place on the drawing surface at any time, click on the View tool and choose this view's name.

To remove a custom view:

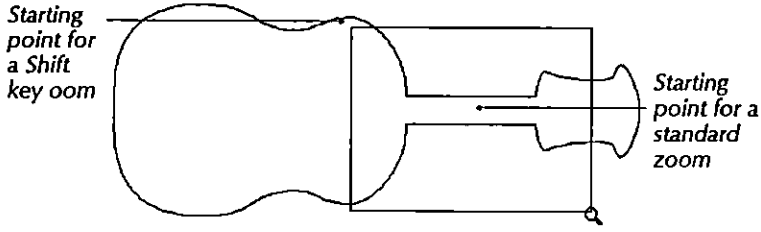
1. Go to that view by choosing it from the View tool menu.
2. Display the View tool menu again. Note that the last option in the menu has changed to **Remove View** and the view name has a marker next to it.
3. Choose **Remove View** from the View tool menu.

Magnifier Tool

The Magnifier zooms in/out on specific portion of the drawing surface.

To zoom *in* on the drawing surface:

1. Click on the Magnifier. The pointer changes to a magnifying glass.
2. Place the magnifying glass over the center of the area you want to zoom in on. Drag in any direction.
   As you drag, a frame appears, centered on the point where you started.
   To drag from the upper left corner of the frame, instead of the center, press the **[Shift]** key before you begin dragging.
3. When the frame encloses the desired area, release the button.



To zoom *out* one level:

Click anywhere on the drawing surface.

To display the entire drawing surface:

Double-click with the Magnifier anywhere on the drawing surface. This is the same as choosing the Full View option of the View tool.

Other Ways to Change Views

You can also zoom in or out or change the view in the following ways:

- You can press the plus key (+) on the numeric keypad to zoom *in* one level toward the center of the drawing surface and the minus (-) key to zoom *out* one level.
- You can use any of the other selectable tools (like the Quill, Rectangle tool, or Flipper) as a temporary Magnifier tool. To do so, select the tool, hold down the **[Ctrl]** and **[Alt]** keys, and drag.
  The other Magnifier techniques–**[Shift]** to drag from the upper left corner of the frame, click to zoom out one level, and double-click to display the entire drawing surface–are also available.

- You can use the the View tool options—Full View, Normal View, and Reduced View—as well as any custom views.

A Note to Logitech Bus Mouse Users

If you have a Logitech® Bus Mouse (which uses its own "bus board" and requires the file MOUSE.COM) and if you are using the CLICK™ utility, the **[Ctrl]** **[Alt]** drag technique described above will change the pointer's speed (as indicated by a beep), causing it to move more slowly than before. To restore the pointer's normal speed, press **[Ctrl]** **[Alt]** and the mouse's middle button.

This feature is described in the chapter "CLICK Mouse Control" in *Getting the Most from Your Mouse* in the Logitech documentation set.

Drawing Tools

Key *Draw! Plus* has several tools for drawing circles, squares, curves, lines, and other shapes. These tools are described in the next several sections.

Default Color and Line Attributes

Defaults are preset choices or values that are used automatically. For example, if you set the default fill color for elements to a solid blue, each new element you draw automatically has a solid blue fill. (You can change the fill color of individual elements after you draw them.)

You can set these defaults in the toolbox:

- fill color or fountain
- line color
- line width and other attributes

To set defaults:

> You cannot set defaults while any elements are selected.

1. De-select all elements by clicking on an empty part of the drawing surface or by pressing the **[F4]** key. De-selecting elements was described previously in this chapter.
2. Click on the appropriate tool to set defaults:
   - ➢ interior fill: Fill Color tool or Fountain tool. See the note below.
   - ➢ line color: Line Color tool
   - ➢ line attributes: Line Width tool

Any color or line attribute chosen while no elements are selected becomes a default.

Defaults remain in effect until you set new defaults or until you quit **Key *Draw! Plus***.

NOTE: You can have a default solid fill color or a default fountain, but not both. The last one you choose becomes the default. For example, if you choose a solid fill color and then a fountain, the fountain is the default.

Anchor Points

Elements are defined by any of three types of *anchor points*:

- *Tangent points* lead from one curve to another. Each tangent point has a tangent line passing through it and a direction point at either end of the tangent line.
- *Junction points* lead from a curve to a straight line or from a straight line to a curve. A junction point has half a tangent line and a single direction point on the side of the curve.
- *Corner points* lead from one straight line to another. They have no tangent lines or direction points.

Maximum Number of Points

Because some output devices cannot reproduce large or complex elements, **Key *Draw! Plus*** has a limit of 255 points per element, including anchor points and direction points. With practice, you should be able to draw complex figures without exceeding this limit.

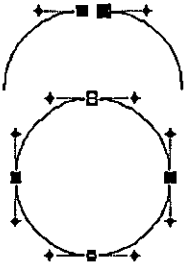
How to Count Points

The total number of points in an element is the sum of its anchor points *and* its direction points.

To add up the points in an element, follow these rules:

- Each tangent point, except for the first or last point on the element, accounts for *three* points—the tangent point itself, plus two direction points. The first or last tangent point on an element ac-

Exploded view of the first and last points of the circle



Why a circle has thirteen points.

counts for two points—the tangent point and one direction point.

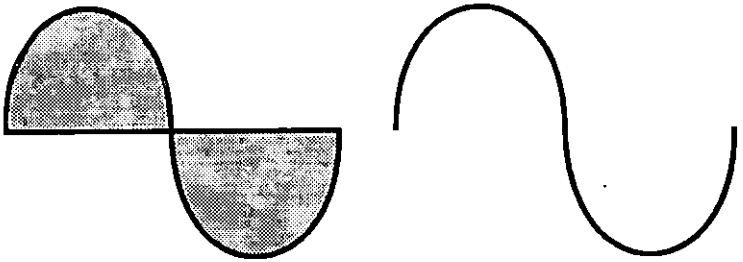
- A junction point accounts for two points—the junction point itself and one direction point.
- A corner point accounts for a single point.
- The first and last points of closed elements like circles and squares are *separate* points, even though they occupy the same position on the drawing surface. A circle, for example, has thirteen points (see previous page).

To find out how many points there are on a single element, select it and then choose the **Element Info** command from the Element menu.

Automatic Closure of Non-Hollow Elements

Key *Draw! Plus* automatically closes elements that contain a fill color or fountain, connecting the first and last points with a straight line that uses the current line color and width.

If the element is hollow (no fill color or fountain), the first and last points are not automatically connected.



Quill Tool

The Quill tool draws curves, polygons, and elements made of combinations of lines and curves.

Pointer Form

The Quill tool pointer can take two forms on the drawing surface:

⊕ The Quill is active but you have not begun to draw.

\+ The Quill is active and you are in the process of drawing. When you complete your drawing, the pointer changes back to a crosshair to indicate that you can draw something else.

Default Fill Color and Line Attributes

Elements drawn with the Quill tool take the current default for fill color, line color, and line width.

This chapter includes a description of how these default values are set.

Outline on Hollow Elements

The outline on elements with Hollow fill is not necessarily "closed." Refer to the section "Automatic Closure of Non-Hollow Elements".

Elements Drawn with the Quill

You can draw three types of elements with the Quill:

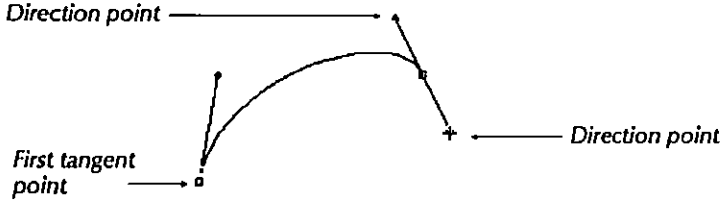
- curves
- polygons
- combinations of curves and lines

Drawing Curves

You can draw two basic kinds of curves with the Quill tool:

- a *simple* curve—like the letter U
- a *compound* curve—like the letter S

A curve is defined by two *tangent points*, each with a *tangent line* and two *direction points* (see the illustration on the next page). Tangent points mark the beginning and end of the curve, and the tangent lines and direction points determine its direction and shape.



The length of the tangent line determines how "tall" the curve will be. With practice, you should soon be able to gauge the curves accurately. (If it is not quite right, you can adjust it later with the Plane tool.)

To draw a curve:

1. Position the Quill tool crosshair where you want to start the curve.
2. Press and hold down the mouse button to set the first tangent point. *Do not release the button.*
3. Drag the first tangent line with the mouse. Release the button when you finish the tangent line.
4. Move to the second tangent point. Again, press and hold down the mouse button.
5. Drag the second tangent line with the mouse. The curve connects the two tangent points.

To draw a simple curve, drag the second tangent line in the opposite direction from the first

to draw a compounded curve, drag the second tangent line in the

6. To continue drawing and add another curve, move the pointer to another tangent point, press the mouse button, and drag a new tangent line.

Closing Elements

You must *close* the current element before you can draw additional elements.

To close an element:

Double-click anywhere in the workspace. The element is closed and is automatically selected. The Quill is still active, and you can continue drawing.

Drawing Polygons

> To draw a single line segment, use the Line tool.

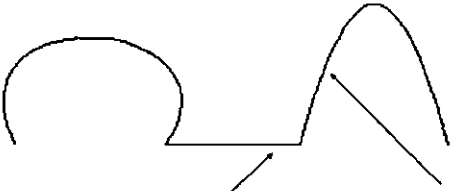
A polygon is a shape made up of connected straight lines.

To draw a polygon:

1. Select the Quill tool and click to set the first point.
2. Click to set each additional point of the polygon. Each new point is connected to the previous one by a straight line.
3. Close the element by double-clicking.

Drawing Elements that Combine Curves and Lines

Elements drawn with the Quill can combine curves and straight lines.



To add a straight line to a curve, click with the Quill pointer to set the end of the line

To add a curve to a straight line, hold down the [Alt] key and drag from the end point of the line. A tangent line appears, and you can draw the curve. You can release the [Alt] key when the tangent line appears.

Additional Techniques

This section describes the following Quill tool techniques:

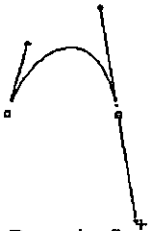
- breaking tangents
- correcting errors
- re-opening a curve or polygon

Breaking Tangents

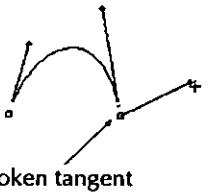
When drawing connected curves, you can "break" the tangent so that the first curve approaches the tangent point along one tangent line and the second curve leaves the point along a different tangent line.

To break a tangent and draw a new curve:

Press the **[Alt]** key and then press the mouse button. The tangent line is now broken at the anchor point, and you can drag the first tangent line of the new curve.



1. Draw the first curve.



2. Break the tangent by [Alt]-dragging the direction point..

3. Draw the second curve

NOTE: The angle between the two curves does not have to be dramatic. You can use this technique to make subtle adjustments in the direction of connected curves.

Correcting Errors

If you are not satisfied with where you set an anchor point, you can easily delete it.

To delete a point:

Press the **[Backspace]** key. **Key *Draw! Plus*** deletes the point and the line or curve connecting it to the previous point. You can then set a new anchor point and continue drawing.

Each time you press the **[Backspace]** key, **Key *Draw! Plus*** deletes another anchor point until it reaches the first point.

You cannot delete the first point of an element with the **[Backspace]** key. To delete the first point of any element, double-click.

Re-Opening a Curve or Polygon

After you have closed a curve or polygon, you can re-open it and continue drawing with the Quill tool.

To re-open a curve or polygon:

1. Choose the Selector tool.
2. Click on the element you want to re-open. The element is now selected.
3. Choose the Quill tool.
4. Double-click anywhere on the element.

Key *Draw! Plus* re-opens the element. You can continue drawing from the last point of the element. You can also edit curves, polygons, and other elements with the Plane tool.

Sketch Tool

The Sketch tool draws "freehand" shapes. You can use the mouse much as you would a pencil or pen.

To draw with the Sketch tool:

The Sketch tool pointer is a crosshair.

1. Select the Sketch tool.
2. Press the mouse button and move the mouse. The crosshair follows the movement of the mouse, drawing on the screen the same design you make with the mouse.
3. Release the mouse button when you have finished drawing. Your design will disappear for a moment while **Key *Draw! Plus*** calculates and draws the curves you have sketched.

Default Fill Color and Line Attributes

Elements drawn with the Sketch tool take the current default for fill color, line color, and line width.

See page 2-21 for a description of how these default values are set.

Outline on Hollow Elements

The outline on elements with Hollow fill is not necessarily "closed." Refer to the section "Automatic Closure of Non-Hollow Elements".

Grid Snap

To enable you to draw truly freehand elements, points drawn with the Sketch tool *never* snap to the grid, regardless of the state of the **Snap to Grid** command.

Trace Tool

The Trace tool automatically draws lines and curves that follow the contours of scanned images, images created with paint programs, or other images converted to the IMG, PCX, or TIFF formats.

When you double-click on the Trace tool, **Key *Draw! Plus*** displays the Trace Options dialog. Autotracing and the Trace Options dialog are described in detail in Chapter 11.

Outline on Hollow Elements

The outline on elements with Hollow fill is not necessarily "closed." Refer to the section "Automatic Closure of Non-Hollow Elements".

Text Tool

The Text tool adds text to your pictures–using many typefaces and an almost limitless variety of point sizes.

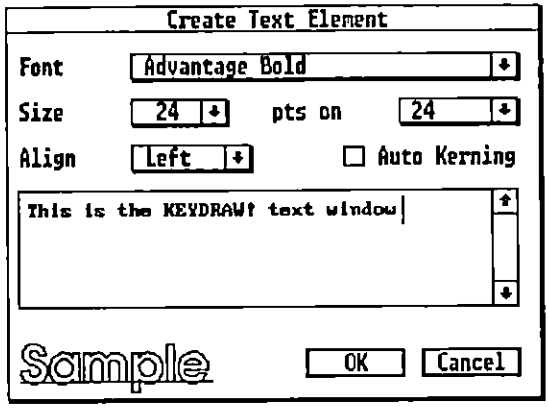
To Add Text To Your Picture

> The Text tool pointer is an "I-beam" text cursor.

1. Select the Text tool.
2. Click the I-beam in the workspace. The text will appear where you clicked.
   You do not have to click exactly where you want the text to be. It is often easier to enter text into an empty part of the

workspace, work on it there, and then move it to its final position.

3. Key ***Draw! Plus*** displays the Create Text Element dialog. Enter your text in the dialog, set the text attributes, and exit the dialog.



Pressing ↵ inserts a carriage return in your text. To exit the Create Text Element dialog and add the text to the workspace, you must click on the OK button.

NOTE: Line Width tool options, including width and caps, can be applied to text. In addition, see the descriptions of the **Text Along a Path** *command and the* **Convert to Curves** *command.*

Create Text Element Dialog

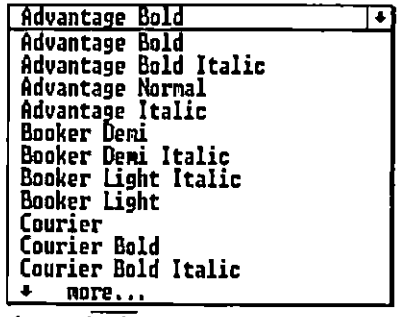
The Create Text Element dialog contains a window into which you enter your text; pop-up menus for choosing the typeface, point size, line spacing, and alignment; and a kerning check box. The word "Sample" appears in the lower left corner of the dialog to illustrate the currently selected typeface.

Font Pop-up

The Font pop-up lists the available fonts (typefaces) for your text. To select a font, click on its name in the list.

You can scroll the list if the name you want is not visible.

> To scroll more rapidly, move the pointer out of the font list, just above or below "more."



- To scroll down the list, touch the pointer to the word "more" when it appears at the bottom of the menu.
- To scroll up the list, touch the pointer to the word "more" when it appears at the top of the menu.

To stop scrolling in either direction, move the pointer into the list of font names.

Adding Fonts to the List

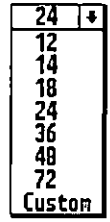
You can convert fonts to the **Key *Draw! Plus*** format and add them to the list.

Converting fonts is described in the **Key *Draw! Plus*** Utilities Guide.

To add fonts to the list, use the Font Manager.

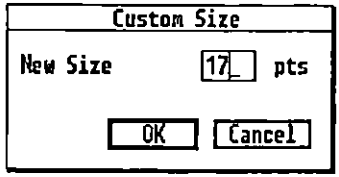
Point Size

The Size pop-up offers seven preset point sizes and a **Custom** option.



Custom Point Sizes

The **Custom** option displays the Custom Size dialog over the Create Text Element dialog. Type a number directly into the "New Size" field or use the pop-up slider to enter a value. You can specify any point size (whole numbers only) from two points to 500 points.



Line Spacing

The line spacing setting in the Create Text Element dialog controls the distance between lines of text separated by a carriage return in the text entry window.

Type is commonly specified as one point size *on* another—for example, "10 on 12." The first number is the point size of the text characters; the second number is the line spacing. Thus, "10 on 12" is 10-point type with 12 points between *baselines*—the invisible horizontal line on which the characters sit. (In traditional typography, 10 on 12 is also known as 10-point type with two points of *lead*, recalling the days when lines of type were separated by quantities of lead.)

Line spacing is set in the pop-up menu that follows the Size pop-up. The number in the pop-up bar depends on the selection you make from the menu's three options, **Solid**, **Auto**, and **Custom**.

Solid

The line spacing is the same as the point size of the text—for example, 12 on 12. The text has "zero points of lead."

When text is set to Solid, there is typically little or no space between the lowest point (*descender*) of a letter on one line and the highest point (*ascender*) of a letter on the line below.

Auto

The line spacing is automatically set by **Key *Draw! Plus*** based on the point size of the text. See the table below.

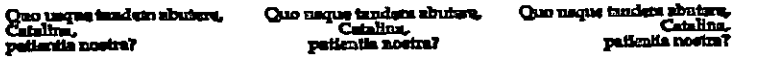
point size	line spacing	specification
2-7 (custom)	1 point more than type size	5 on 6, e.g.
8-11 (custom)	2 points more than type size	9 on 11, e.g.
12	14	12 on 14
14	17	14 on 17
18	22	18 on 22
24	29	24 on 29
36	43	36 on 43
48	58	48 on 58
72	86	72 on 86
above 72 (custom)	20% more than type size	80 on 96, e.g.

Custom

The **Custom** option displays the Custom Line Space dialog. Type a number directly into the New Line Space field or use the pop-up slider to set a value. You can specify a baseline distance smaller than the text point size so that the lines of text actually overlap.

Alignment

The Align pop-up gives three choices for aligning your text on the drawing surface.

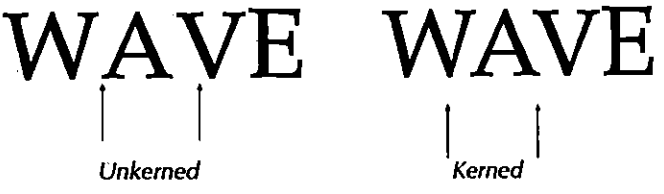


Left Alignment *Center Alignment* *Right Alignment*

Auto Kerning

Kerning is a reduction in the space between specific pairs of letters, intended to produce a more visually pleasing letter spacing.

In the example below, the A in the unkerned version of WAVE appears separated from its surrounding letters. Kerning reduces the space on both sides of the A so that the spacing between all the letters in the word appears uniform.



Unkerned *Kerned*

Text Entry Window

Type your text directly into the text entry window. To start a new line, press ↵.

The window can display four lines of text at a time. To bring a line that is not visible into the window, use the scrollers at the right side of the window.

Cursor Keys

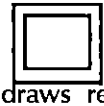
Use these keys on the numeric keypad to move the cursor in the text entry window:

key	cursor movement
Home	to beginning of line
End	to end of line
PgUp	up four lines
PgDn	down four lines
left-arrow/right-arrow	left/right one character
up-arrow/down-arrow	up/down one line
Backspace	deletes character to left of cursor
Delete	deletes character to right of cursor

Symbol and Wombat Characters

> See Appendix A for a list of **Key *Draw! Plus*'s** font names and their PostScript equivalents.

Characters in the Symbol and Wombat fonts cannot be displayed in the text window. You will see the standard character for that ASCII decimal value, but the correct Symbol or Wombat character *will* appear on the drawing surface and in your picture.

Rectangle Tool 

The Rectangle tool draws rectangles, rounded rectangles, and squares.

Default Fill Color and Line Attributes

Elements drawn with the Rectangle tool take the current default for fill color, line color, and line width.

See page 2-21 for a description of how these default values are set.

Drawing with the Rectangle Tool

The steps for drawing rectangles and squares are almost identical.

To draw a rectangle:

1. Select the Rectangle tool. The pointer becomes a crosshair when it is in the workspace.
2. Position the crosshair at one of the corners of the rectangle.
3. Drag the mouse diagonally to the opposite corner of the rectangle.
   As you drag, an outline of the rectangle follows the crosshair.
4. To finish the rectangle, release the mouse button.

To draw a rounded rectangle:

Set a "Corner Radius" in the Rectangle Options dialog (described below) and then follow the steps for drawing a rectangle.

If you will be drawing rounded rectangles frequently, you can use the Tools Manager to create a Rounded Rectangle tool. The Tools Manager is described in Chapter 13.

To draw a true square:

Follow the steps for drawing a rectangle, but hold down the **[Ctrl]** key as you drag.

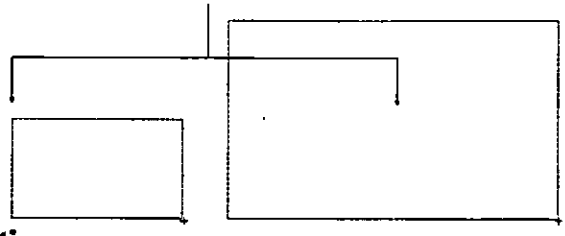
To draw a square with rounded corners, first set a "Corner Radius" in the Rectangle Options dialog.

NOTE: The aspect ratio of the pixels on some display monitors can affect how squares appear on the screen. On an EGA screen, for example, a circle can appear as a tall ellipse. This effect is less pronounced on a VGA™ screen. The distortion will not appear in your printed output.

To draw around a center point:

To draw a rectangle from the center, hold down the **[Shift]** key as you drag. To draw a square from the center, hold down both the **[Ctrl]** key *and* the **[Shift]** key.

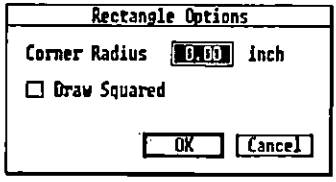
Starting point



Both rectangles were drawn from the same starting point. The rectangle on the right was drawn from the center.

Rectangle Options

When you double-click on the Rectangle tool, Key *Draw! Plus* displays the Rectangle Options dialog.



Corner Radius This option sets the radius of the curves at the corners of a rounded rectangle. The default value of zero draws a rectangle with right-angle corners.
After you set a corner radius value to draw a rounded rectangle, you must reset the value to zero to draw a normal rectangle.

Draw Squared This option makes the Rectangle tool draw only squares.

Rounded Rectangle Tool

The Rounded Rectangle tool is simply a Rectangle tool with a pre-set corner radius. You can change this corner radius to your own preference by double-clicking on the Rounded Rectangle tool to display the Rectangle Options dialog.

In all other respects the Rounded Rectangle tool is identical to the Rectangle tool.

Circle Tool

The Circle tool draws circles and ellipses.

Default Fill Color and Line Attributes

Elements drawn with the Circle tool take the current default for fill color, line color, and line width.

See page 2-21 for a description of how these default values are set.

Drawing with the Circle Tool

The steps for drawing circles and ellipses are almost identical.

To draw an ellipse:

1. Select the Circle tool. The pointer becomes a crosshair when it is in the workspace.
2. Imagine a rectangle enclosing the ellipse you want to draw. Position the crosshair at one of the corners of this imaginary rectangle.
3. Press the mouse button and drag to the diagonally opposite corner of the rectangle.

   As you drag, an outline of the ellipse follows the crosshair.
4. To finish the ellipse, release the mouse button.

To draw a true circle:

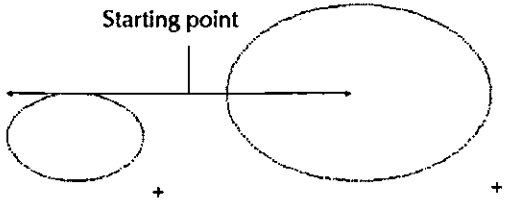
Follow the steps for drawing an ellipse, but hold down the **[Ctrl]** key as you drag.

NOTE: The aspect ratio of the pixels on some display monitors can affect how circles appear on the screen. On an EGA screen, for example, a circle can appear as a tall ellipse. This effect is less pronounced on a VGA screen. The distortion will not appear in your printed output.

To draw around a center point:

To draw an ellipse from the center, hold down the **[Shift]** key as you drag. To draw a circle from the center, hold down both the **[Ctrl]** key *and* the **[Shift]** key.

Both ellipses were drawn from the same starting point. The ellipse on the right was drawn from the center.



Line Tool

The Line tool draws straight line segments.

Lines drawn with the Line tool take the current default values for line color and line width.

To draw a line:

1. Select the Line tool. The pointer becomes a cross when it is in the workspace.
2. Place the cross where you want the line to begin.
3. Drag to draw the line.

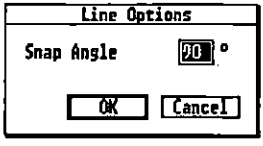
To draw connected line segments, use the Quill tool or join individual line segments with the Plane tool.

To draw vertical, horizontal, and 45° lines:

Press the **[Ctrl]** key as you drag. The line snaps to the nearest 45° interval.

Line Options

When you double-click on the Line tool, **Key *Draw! Plus*** displays the Line Options dialog.



The Snap Angle set in this dialog restricts the Line tool to multiples of this angle. For example, if you set the snap angle to 15 degrees, you can draw lines only at 15°, 30°, 45°, 60°, and so on.

Fill Color Tool

A *fill color* (in contrast to a fountain) is a solid color or a shade of gray. Using the Fill Color tool, you can:

- assign fill colors to selected elements;
- create new fill colors;
- choose default fill colors
- set color tool options.

Fountain Tool

A *fountain* (in contrast to a fill color) is a gradual blending of one color into another. Using the Fountain tool, you can:

- assign fountains to selected elements;
- create new fountains;
- choose default fountains;
- set color tool options.

Line Color Tool

In **Key *Draw! Plus*'s** initial default, elements are drawn with a thin black outline. Using the Line Color tool, you can:

- assign colors to the outlines around selected elements (see page 2-43);
- create new line colors;
- choose a new default line color;
- set color tool options.

Using the Color Tools

Assigning Colors or Fountains

To assign a color or fountain:

1. Select the elements to which you want to assign the color or fountain.

   > The colors that are available depend on the currently loaded color file.

2. Click on the appropriate tool—Fill Color, Fountain, or Line Color—to display the color selector.
   The type of selector—List or Palette—is determined by your selection in the Color Tool Options dialog.
3. Click on the color you want.

NOTE: If you click on the Fountain tool when the current color file contains no fountains, the Add Fountain dialog is automatically displayed. Color files and the Add Fill dialog are described in Chapter 12.

Hollow Elements

The Hollow fill option produces an outline of the element, using only the current line color and width values.

NOTE: The outline on elements with a Hollow fill is not necessarily "closed." See "Automatic Closure of Non-Hollow Elements".

Creating New Colors or Fountains

The color selectors include an option for creating a new color or fountain.

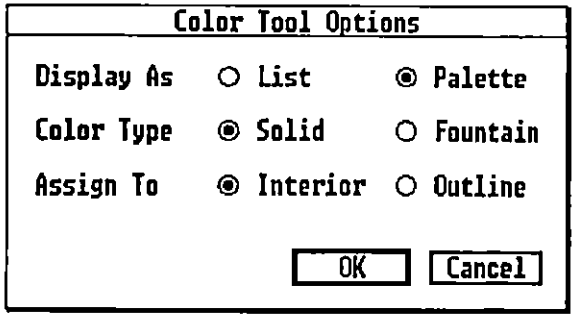
To create a new color or fountain:

1. Display the appropriate color list or palette—Fill Color, Fountain, or Line Color.
2. Click on the **Add Color** option. **Key *Draw! Plus*** displays the Add Color dialog.
   In the color palette, the **Add Color** option appears at the bottom of the palette window. In the color list, the **Add Color** option is the last item in the list.
3. Fill out the Add Color dialog.

The Add Color dialog is described fully in Chapter 12.

Setting Color Tool Options

Double-clicking on the Fill Color tool, Fountain tool, or Line Color tool displays the Color Tool Options dialog. The options you choose apply only to the tool on which you double-clicked.

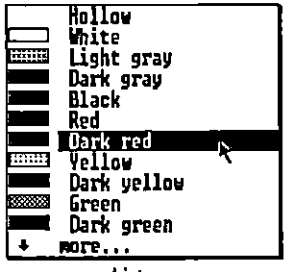


Display As

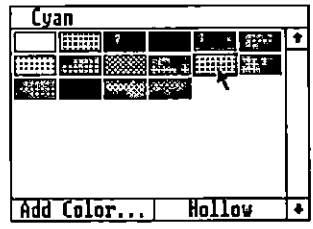
This option determines how the selected tool displays colors. See the illustration below.

List The list format is most suited to comparatively small color files.
To scroll the list of colors, touch the pointer to the word "more" that appears at the bottom or top of the list. To scroll more rapidly, move the pointer out of the list, just above or below "more."
To stop scrolling, move the pointer into the list.

Palette The palette format is suited to large color files like the PANTONE files.
To scroll the Palette, drag the slider or click on the arrows. Note that a color's name appears in the Palette's title bar only when the pointer is on the color itself.



List



Palette

The order in which the colors are displayed is set by the ***Sort*** *commands in the Color Management (Chapter 12)*

Color Type

Solid The selected tool assigns solid colors. This option is valid for any kind of color tool.

Fountain The selected tool assigns fountains. This option is valid only for tools for which the Assign To option (next) is set to **Interior.**

Assign To

Interior The selected tool's color type—**Solid** or **Fountain**—is assigned to the element's interior.

Outline The selected tool's color type—**Solid** only— is assigned to the element's outline.

When to Set Color Tool Options

You can change a color tool's display format at any time, according to your preference or needs. Do not, however, change the Assign To or Color Type settings for the standard color tools. If you create a custom color tool with the Tools Manager (Chapter 13), you can set all available color tool options.

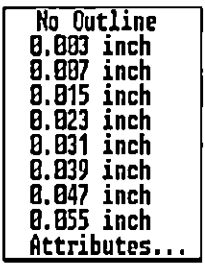
Line Width Tool

The Line Width tool sets the width and attributes of the outline around selected elements (including text) and of lines drawn with the Line tool. You can also use the Line Width tool to set a default line width and attributes. Setting defaults is described on page 2-19.

Setting Line Width

To set the line width:

1. Select the elements whose line width you want to set.
2. Click on the Line Width tool to display the line width menu.
   The line widths listed in this menu are in the unit of measure currently set in the Page Layout dialog. (See description of the **Page Layout** command in Chapter 3.)



3. Click on a line width in the menu. The **No Outline** option results in an element with no outline. (**No Outline** has no effect when applied to hollow elements or single line segments.)
4. If you want a line width not listed in the menu, click on the **Attributes** option. **Key *Draw! Plus*** displays a dialog (described below) that includes a custom line width option.

NOTE: Because of limitations in their resolution, most screens cannot display every available line width, especially at **Key *Draw! Plus's*** *Full or Reduced views. Instead, as you increase the line width, the displayed line width increases in distinct steps. This screen limitation will have no effect on your printed output.*

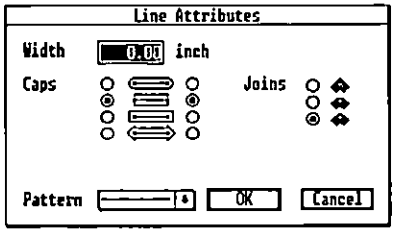
Setting Line Attributes

In the line attributes dialog you can set:

- a custom line width;
- line end styles;
- the style of the angle where two lines meet;
- the line's "pattern"—solid or several dotted line styles.

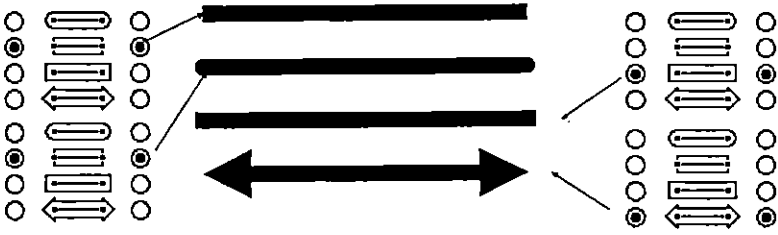
To set line attributes:

1. Select the elements whose line attributes you want to set.
2. Click on the Line Width tool.
3. Click on the **Attributes** option. **Key *Draw! Plus*** displays the Line Attributes dialog.

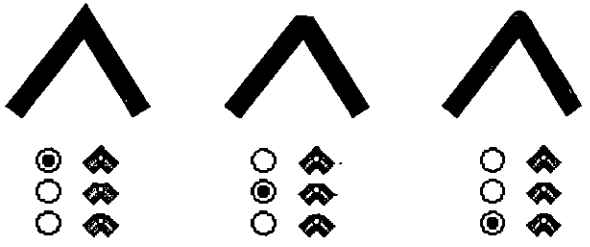


Width To set a custom line width, type a value directly into the field or use the pop-up slider.

Caps These buttons set the style of the beginning and end points of the line or outline. The left column sets the style for the beginning of the line, the right column for the end of the line.
Rounded end caps and long squared end caps extend past the end points of the line you draw. The extra length is roughly half the current width of the line. For example, a .2-inch wide line that is four inches long and has a single rounded end cap is actually 4.1 inches long, to allow for the rounded end cap.



Joins These buttons set the style of the angle between two lines at a corner point.



Pattern This pop-up menu contains a selection of dotted, dashed, and dot-dash line styles.

NOTE: Patterned lines greater than one pixel in width will appear as solid lines on the screen and in output to non-PostScript printers, but they will print correctly on PostScript printers and phototypesetters.

Rotator Tool

The Rotator tool rotates selected elements around a specified point and also makes rotated copies. You can also set Rotator tool options *before* you rotate elements.

To rotate elements:

1. Select the elements you want to rotate.
2. Set rotator options (described below). If you do not set rotator options, **Key *Draw! Plus*** will use the defaults or your current settings.
3. If you chose the Thumbtack or the guide lines as your rotation center, set them in place now.
4. Click on the Rotator tool.

   The Rotator's pointer is an arrowhead.

5. Rotate the selected elements by dragging with the mouse. The pointer does not have to be on top of the elements being rotated.
   As you move the mouse, a line radiating out from the center of rotation follows the pointer.
   If you have set a rotation angle, the elements snap to a new position each time they move through one rotation of that angle.
6. When you finish rotating, release the mouse button.

To make rotated copies:

Press and hold down the **[Shift]** key and then drag with the Rotator tool.

Here are two additional rotation techniques:

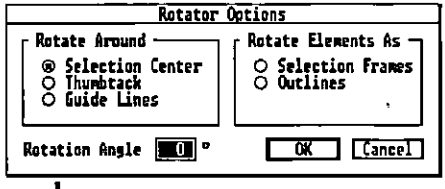
- You can rotate elements using the **Rotate** command in the Edit menu.
- You can create special Rotator tools for specific angles of rotation that you use frequently. Creating custom tools is described in Chapter 13.

Fountained Elements

If a rotated element contains a fountain, the fountain does not rotate with the element. To create a rotated fountain, use the Color Manager (Chapter 12).

Rotator Options

The Rotator Options dialog sets parameters that will be in effect when you use the Rotator tool. To display the Rotator Options dialog, double-click on the Rotator tool.



Rotate Around

Selection Center A single element is rotated around the center of its selection frame.
Grouped elements are rotated around the center point of the selection frame enclosing the group.
Multiple selected (but ungrouped) elements are treated as if they were a group, and are rotated around the center point of an imaginary selection frame enclosing them.

Thumbtack Elements are rotated around the point set with the Thumbtack.

If the Thumbtack has not been set, elements are rotated around the center of the drawing surface.

Guide Lines Elements are rotated around the point of intersection of the guide lines. The guide lines are described in chapter 5.

If the guide lines have not been set, elements are rotated around the center of the drawing surface.

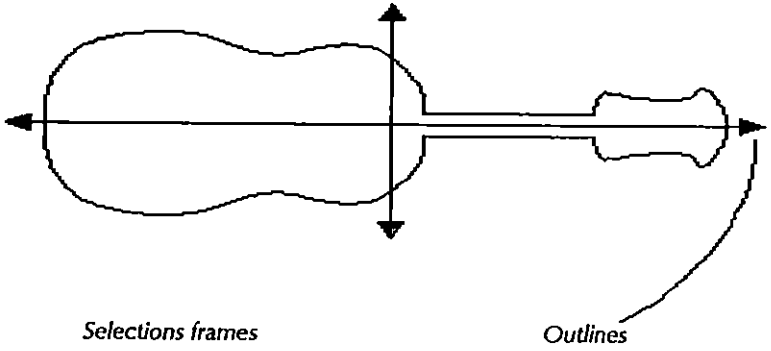
Rotate Elements As

> Your choice is determined by personal preference and the task you are trying to accomplish.

Selection Frames The elements' selection frames are rotated.

Outlines Outlines of the elements themselves are rotated.

Of the two options, Selection Frames is suited to rotating complex elements or text elements. The Outlines option is preferable when accuracy of position is desired.



Rotation Angle

This option determines the angle through which the selected elements can be rotated. Type a value directly into the field or drag the pop-up slider.

Elements can be rotated only through multiples of the set value. For example, if you set a value of 25°, the elements will be drawn only at rotations of 25°, 50°, 75°, and so on.

When the value is set to 0°, you can rotate elements freely.

Plane Tool

Using the Plane tool, you can change the shape of elements by:

- moving anchor points or direction points;
- adding or deleting points;
- converting a curve to a line or a line to a curve;
- joining or splitting points;
- making curves symmetric or smooth (words that have special meaning in connection with the Plane).

Remember the following about the Plane tool:

> To turn fill and line attributes back on, choose the **Colors** command or press **[F10]**.

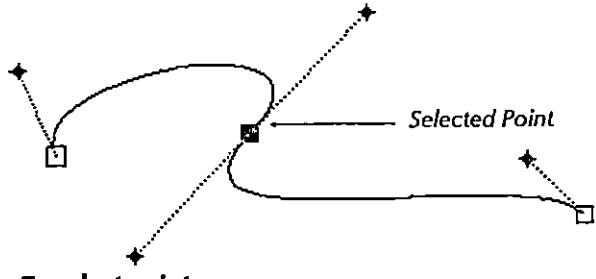
- When you select the Plane, the fill and line attributes of all elements are automatically turned off, to give you a clear view of curves, lines, and points and to increase the speed with which elements are drawn.
- You cannot use the Plane on grouped elements (including text characters that have been converted to curves) or on blended elements.

Selecting Points

Before you can modify a curve or line, you must select the point (or points) with which you want to work.

> The first point of an element is larger than the other points.

Selected points are displayed as black squares; the remaining points on the element are displayed as hollow squares. When you select a single point, its tangent line (if any) is shown, as is the half-tangent (if any) of the point on either side of the selected point.



To select points:

- To select a single point, click on it.

- To select more than one point, Shift-click on each point.
- If you are not sure where a point is, drag a selector box. (You can also use this technique to select more than one point.) **Key *Draw! Plus*** selects all points within the selector box.

If the selector box includes points you do not want, de-select the unwanted points by Shift-clicking on them.

- To add several additional points to an existing selection, Shift-drag a selector box around the area where the points are located.

To select *all* points on an element:

> After selecting all points, if you drag one of the selected points, you move the entire element.

- Hold down the **[Alt]** key and click on the element, or drag a selector box around the whole element.
- To select all points on additional elements, hold down the **[Shift]** key as you **Alt]** click on the elements.

Selecting Adjacent Points

To select a point on either side of the currently selected point, press the left-arrow or right-arrow. By continuing to press the left-arrow or right-arrow, you can "walk the points" to the first or last point of the element.

Selecting Points in Stacked Elements

When elements are stacked on top of each other, the Plane can select unwanted points. To avoid selecting points on other elements, you can do the following:

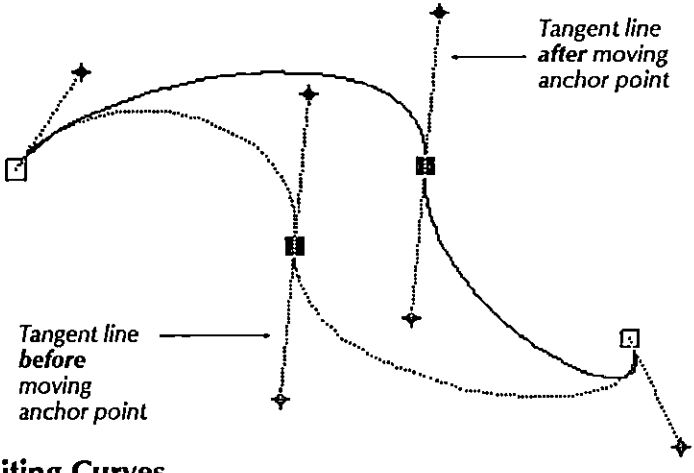
- Separate elements into layers. The Plane selects points only on elements in the active layer.
- Lock the elements whose points you do *not* want to select. To lock an element, select it and then choose the **Lock** command from the Element menu.

Moving Anchor Points

Moving an anchor point (or several selected anchor points) changes the shape of the element. You could, for example, change a square into a rectangle. The illustration on the following page shows one example of the effect of moving anchor points.

Note the following:

- All selected points move with the one you are dragging.
- The position of the selected points relative to each other does not change.
- Unselected points do not move.
- The angle and length of tangent lines are unchanged when you drag an anchor point (see below).



Editing Curves

Direction points mark the ends of a tangent line. When you draw a curve with the Quill, the tangent line is a solid line, and the direction points are the same distance on either side of the tangent point.

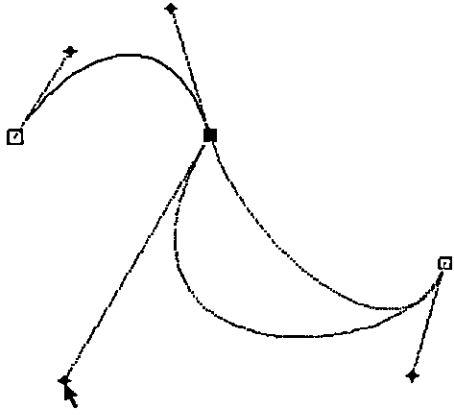
Moving a direction point changes the shape of the curves at the tangent point. There are two kinds of curve edits:

- solid tangent edits
- broken tangent edits

Solid Tangent Edits

> The tangent line is solid, unless you deliberately break it.

When you drag a direction point on a solid tangent line, you change the length and angle of the tangent line, and the shape of the curves *on both sides of the tangent point* changes to remain tangent to the modified line.



Broken Tangent Edits

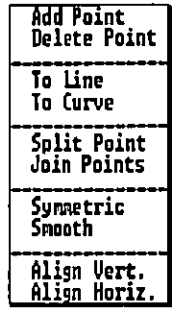
By breaking the tangent, you can change the shape of the curve on one side of the tangent point.

To break the tangent, press the **[Alt]** key and then drag a direction point. You change the curve only on that side of the tangent point; the opposite direction point does not move.

Once the tangent is broken, it remains broken; you need not press the **[Alt]** key again to drag the direction point. You can make a broken tangent solid again by choosing the **Symmetric** command from the Plane tool pop-up menu (described next).

Plane Tool Pop-Up

The Plane tool pop-up menu contains commands for additional editing of curves.



To display the Plane tool pop-up menu:

1. Select the point (or points) on which you want to work.
2. Double-click in the workspace, preferably away from the selected points.

The menu appears at the pointer's location, and double-clicking near the points could cause the menu to appear on top of them.

Note that the line from the selected point to the *next* point (in the order in which the points were drawn) has become a dotted line. This dotted line is affected by several of the commands in the Plane tool pop-up menu.

Add Point Command

The **Add Point** command adds a new point to the element, located at the midpoint of the dotted line.

If the selected point is the last point on the element, **Add Point** adds a straight line segment to the element. To convert this line segment to a curve, select the *next-to-last* point on the element and then choose the **To Curve** command (described below).

Delete Point Command

The **Delete Point** command deletes the selected point.

When you delete a junction point, the two points on either side of the deleted point are connected by a straight line.

To Line Command

The **To Line** command converts the dotted line from a curve to a straight line. This command is available only when the dotted line is a curve.

To Curve Command

The **To Curve** command converts the dotted line from a line to a curve. This command is available only when the dotted line is a straight line

The newly created curve initially appears to be a straight line, but it now has tangent lines and direction points. You can drag these direction points to give the new curve the shape you want.

Split Point Command

The **Split Point** command splits a single selected point into two points. The element that contained the point is split into two elements that can be separately selected, moved, rotated, and so on.

This command is available for any single point, except for an element's beginning and end points.

Join Points Command

The **Join Points** command makes a single point of two selected end points. You can use the **Join Points** command to:

- bring the first and last points of an element together;
- join two elements.

Joining points can change the shape and color of your elements in the following manner:

- If you join the first and last points of the same element, the last point moves to the first, and the shape of the element changes accordingly.
- If you join points on separate elements, the point on the element on the bottom (lower in the stack) moves to the point on the top. Again, the shape of the element changes accordingly.
- If you join points on separate elements, the resulting element has the color and line attributes of the element on the bottom.

Symmetric Command

The **Symmetric** command turns a broken tangent line (see page 2-57) back into a solid line with direction points equidistant from the tangent point.

A symmetric tangent line has these characteristics:

- The "outgoing" half of the tangent line (the half on the side of the curve leading to the end point of the element) is matched to the incoming half of the line.
- The curve flows continuously and smoothly through its tangent point.
- Moving a direction point moves the entire tangent line, not just the half-tangent on the side of the direction point.

Smooth Command

The **Smooth** command removes the angle between curves at a broken tangent or between a curve and line at a junction point.

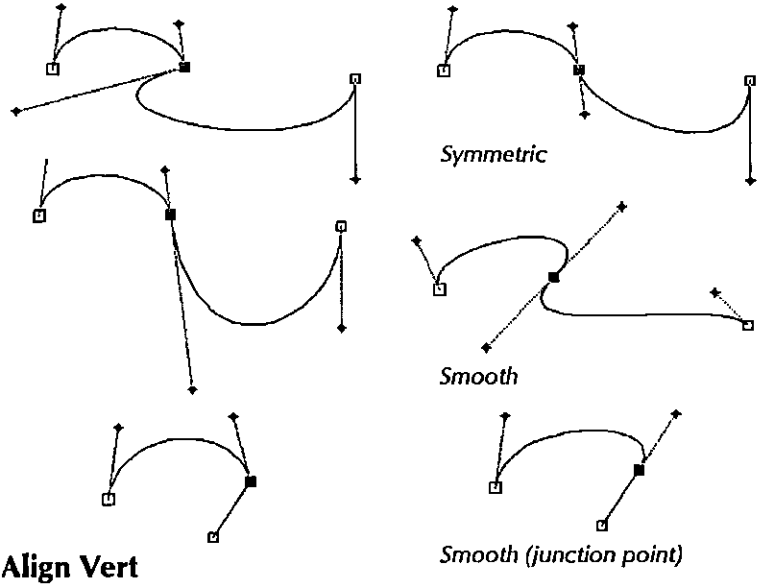
Smoothed Broken Tangents

When you **Smooth** a broken tangent, the result is a straight tangent line, but a smooth tangent is different from a symmetric tangent in two important respects:

- Although straight, the tangent line is still broken. You can drag the direction points independently, without pressing the **[Alt]** key.
- The lengths of the half-tangents are not changed; they can be different lengths. In a smoothed tangent, the outgoing half of the line moves to line up with the incoming half.

Junction Points

When you **Smooth** a junction point, the curve is changed so that it passes smoothly into or out of the line segment. There is no apparent angle where the curve meets the line.

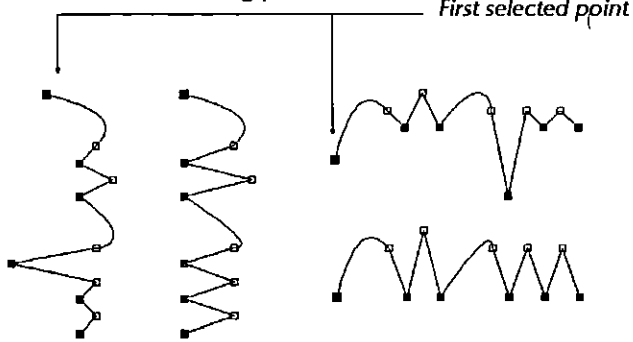


Align Vert

The **Align Vert** command moves all selected points to the left or right so that they line up vertically with the *first* selected point—the point nearest the element's starting point.

Align Horiz

The **Align Horiz** command moves all selected points up or down so that they line up horizontally with the *first* selected point—the point nearest the element's starting point.



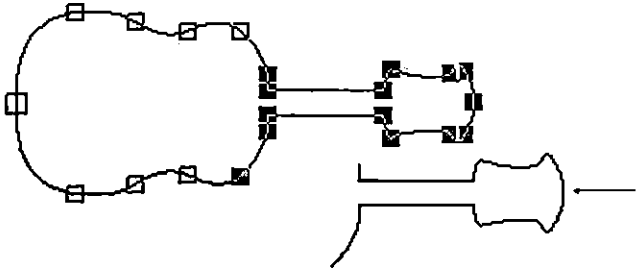
Copying Portions of a Curve

To copy portions of a curve or polygon:

1. Use the Plane to select *all points* on the segment you want to copy.

   > The **Duplicate** and **Clone** *commands are described in Chapter 7.*

2. Choose the **Duplicate** or **Clone** command from the Edit menu. A **Duplicate** copy is offset by one grid increment (regardless of the state of the grid snap); a **Clone** is copied directly on top of the original.



Thumbtack

The Thumbtack, more of an accessory than a tool, is used for setting a center of rotation or an alignment point.

To set the Thumbtack:

1. Click on the Thumbtack. When you move the pointer into the work area, it takes the shape of a thumbtack.
2. Click the point of the Thumbtack where you want the center of rotation or the alignment point.

To remove the Thumbtack from the workspace:

1. Select the Thumbtack in the toolbox.
2. Click anywhere in the workspace to "pick up" the pointer from the drawing surface.

Flipper

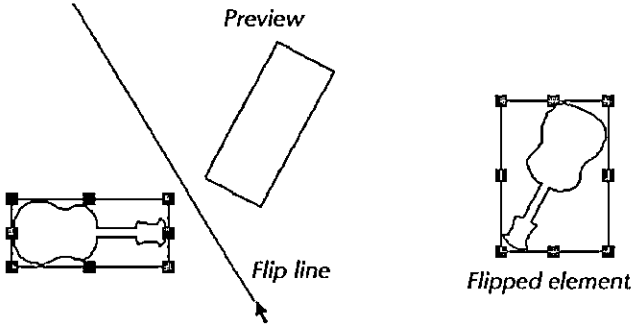
The Flipper tool moves or copies selected elements to a "mirror-image" position. By dragging a *flip line*, you control the placement and angle of the flipped elements.

To flip an element:

1. Click on the Flipper tool.

> To see the angle of the flip line, display the status line.

2. Drag a flip line. When the flip line is long enough, a preview of the flipped element is displayed.
3. Release the mouse button. All selected elements are flipped across the line.



To constrain the flip angle to 45° increments:

Hold down the **Ctrl** key as you drag the flip line.

To copy an element over the flip line:

Hold down the **Shift** key as you drag the flip line.

To abandon after you start dragging the flip line:

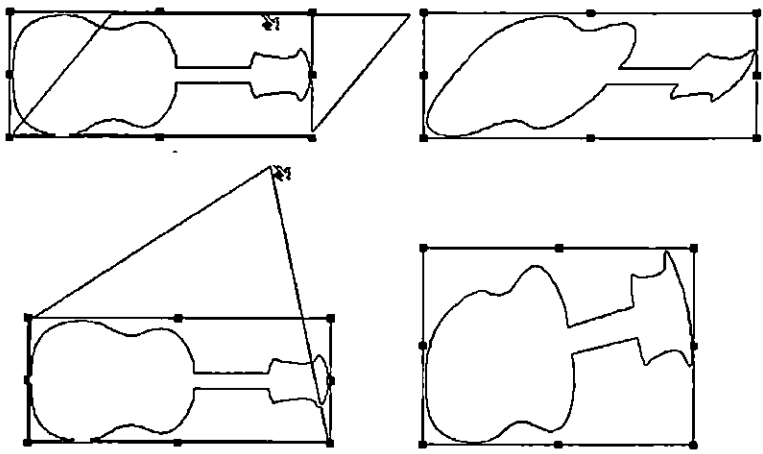
1. Drag a short flip line (so that no preview appears) and then release the mouse button. **Key *Draw! Plus*** displays an alert saying that the flip line is too short.
2. Click on the alert's OK button.

Rolling Pin

The Rolling Pin *skews* a selected element or group, distorting it from its original shape.

To use the Rolling Pin tool:

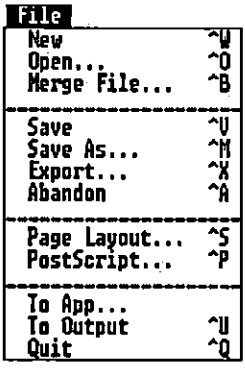
1. Select an element.
2. Click on the Rolling Pin tool.
3. Drag one of the element's corner handles or a midpoint handle, depending on the effect you want.
   - ➢ Dragging a corner handle can skew the element in two directions at once—for example, up and to the right, or down and to the left. The element's other corner handles remain fixed.
   - ➢ Dragging a midpoint handle skews the element along the plane on which the handle is located.



NOTE: The Rolling Pin tool works only on single selected elements or groups. If you select more than one element or group, the Rolling Pin works only on the element whose handle you are dragging.

File Menu

This chapter describes the commands in the File menu, which are primarily concerned with file operations like opening and saving files, reading files into **Key *Draw! Plus***, various kinds of output, and defining the **Key *Draw! Plus*** page layout.



Abandon/Save Alert

If you choose the **New, Open, Abandon, To Output,** or **Quit** command when the drawing surface contains work you have not saved, **Key *Draw! Plus*** displays this alert:

The alert's exit buttons give you three options:

Abandon Unsaved work is discarded and the command is carried out.

Save The file is saved under its current name and the command is carried out. If the picture has not yet been saved, **Key *Draw! Plus*** displays the Item Selector so you can give the file a name and save it.

Cancel The command is canceled. You return to the current picture.

New Command

> The Abandon/Save alert is displayed if the drawing surface contains unsaved work (see above).

The **New** command clears the drawing surface so you can start a new picture.

The **New** command automatically loads the color file ARTLINE.COL and makes the Color Manager's **Load** command available. Color files and the Color Manager are described in Chapter 12.

Open Command

> The Abandon/Save alert is displayed if the drawing surface contains unsaved work .

The **Open** command displays the Item Selector so you can select a file to open onto the drawing surface.

To select a file, double-click on its name in the directory window (the fastest method) or type the name into the Selection line and then click on the OK button. The Item Selector is described in chapter 1.

The length of time required to open a file (indicated by the rotating "clock face") depends on:

- the complexity of the picture
- your computer's processor speed
- the current Redraw Speed setting

Valid File Formats

You can open files in either of these formats:

- .GEM
  In addition to **Key *Draw! Plus***, these are some of the programs that create files in the .GEM format:
  - Presentation Team™ by Digital Research®
  - GEM Draw Plus by Digital Research
  - PerFORM by Delrina Technology Inc.
- encapsulated PostScript—Adobe Illustrator format (extension .EPS or .AI)
  Much clip art is provided in this format.

CAUTION: The EPS files produced by **Key *Draw! Plus*** *are intended for use with desktop publishing programs and cannot be opened in* **Key *Draw! Plus*** *itself. If you create an EPS file of a picture that you want to be able to edit later, make sure you also save the picture as a .GEM file.*

Merge File Command

> Merging has no effect on the file you are merging *from.*

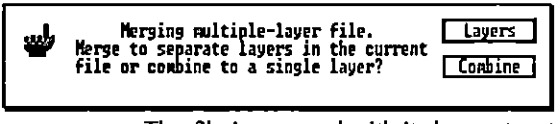
The **Merge File** command loads any file in the .GEM format (including other **Key *Draw! Plus*** files) or the Adobe Illustrator encapsulated PostScript format into the current file. The **Merge File** command makes it possible to assemble libraries of pictures you can read into your **Key *Draw! Plus*** files.

When you choose the **Merge File** command, the Item Selector is displayed. Select the file you want by double-clicking on its name in the directory window or by typing the name into the Selection line.

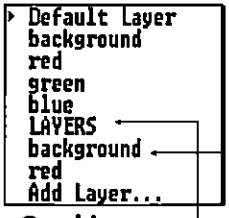
Files with Layers

Merging a file always adds at least one new layer to the current file.

- If you merge a one-layer file, a single layer is added. The new layer takes the name of the merged file and is placed on top of all other layers.
- If the merged file has more than one layer, **Key *Draw! Plus*** displays this alert:



Layers



Combine

The file is merged with its layer structure intact. The new layers are placed on top of the other layers in the file and keep the names they had in the original file. Duplicate layer names are possible in this case, but the new layers are always added on the top—farther *down* the list displayed by the Layer tool.

Key *Draw! Plus* combines all the layers in the merge file into a single new layer in the current file. The new layer's name is the same as the merge file's, and the new layer is on top of any other layers at the time it is added.

Valid File Formats

You can merge files in the .GEM and encapsulated PostScript formats. (See the **Open** command in chapter 3.)

Save Command

The **Save** command saves the current picture under the name that appears in the title bar. Save your work at regular intervals to protect it from power failures or other unexpected occurrences.

The current display status of the Layer Manager (Active, Visible, All, or Slides) is saved with the file. For example, a file that is saved in Slides mode will automatically be in Slides mode the next time you open it. Display status is discussed in chapter 10.

You can set your preferences so that the last version of your picture file is saved as a backup each time you save. Backups are described in chapter 9.

Save As Command

The **Save As** command displays the Item Selector so you can:

- name and save a picture for the first time;
- save an existing picture under a new name, permitting you to keep two distinct versions;
- save a picture to another directory or disk.

The Item Selector is described in chapter 1.

Saving for the First Time

> You do not have to type the .GEM extension. **Key *Draw! Plus*** supplies it automatically.

To name and save a picture for the first time, choose the **Save As** command, set the path in the Item Selector to the directory in which you want to save the file, and type a name into the Selection line of the Item Selector.

Key *Draw! Plus* saves files to the \KEYDRAW!\ARTWORK directory unless you change the path specification in the Item Selector.

Saving Under a New Name

To save a file under a new name, choose the **Save As** command and type the new name in the Item Selector's Selection line.

Note that the name in the window's title bar changes to the new name. Any additional work on the picture takes place in the new version of the file, and the original picture is unchanged.

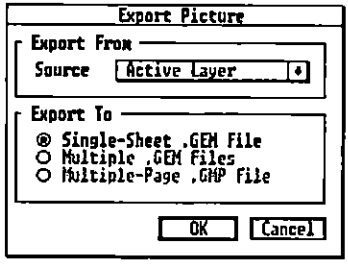
Saving to Another Disk or Directory

To save a picture to another disk or directory, first change the path in the Item Selector's Directory line, and then enter the filename in the Selection line.

Export Command

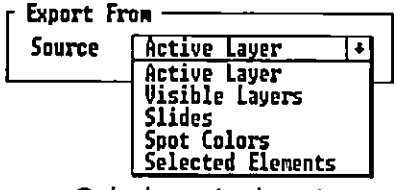
> You do not have to save the current file before exporting it.

The **Export** command displays the Export Picture dialog so you can create a variety of other files from part or all of the current file.



Export From

The Export From pop-up menu determines what is exported.



Active Layer Only the active layer is exported.

Visible Layers All layers flagged as Visible in the Layer Manager (Chapter 10) are exported.

Slides All layers are exported. If a layer is designated as the background to one or more slides (chapter 10), it is exported only with the layers to which it is linked; it is not exported separately.

Spot Colors All elements currently displayed on the drawing surface are exported, including elements hidden from view by overlapping layers.

Spot color separation produces one page or file for each color exported. All occurrences of a given color are exported to a single page or file, regardless of the layer on which they occur. Remember the following about spot colors:

Any small variation in a color causes it to be treated as a distinct color that is exported separately. For example, a color that is 66.6% red is exported separately from a color that is 66.7% red, although the two colors might otherwise be identical.

The actual colors are not exported to the file (or files). Instead, the *area occupied by the color* is exported as solid black or (in the case of fountains and blends) as shades of gray. This allows you to go directly to offset plates.

Selected Elements All selected elements on the drawing surface are exported.

Export To

The Export To options determine what kind of file is produced by the **Export** command. The availability of the options depends on the Export From option chosen above.

Single-Sheet .GEM File

Available for Active Layer, Visible Layers, or Selected Elements.

The result is a single file containing the active layer, visible layers, or selected elements. This file can be opened in **Key *Draw! Plus*** or merged into an **Key *Draw! Plus*** file.

Multiple .GEM Files

Available for Visible Layers, Slides, or Spot Colors.

The result is a separate file for each exported layer, slide, or color. Each file can be opened in **Key *Draw! Plus*** or merged into an **Key *Draw! Plus*** file.

When exporting to multiple .GEM files, the filename you specify cannot be more than five characters long. **Key *Draw! Plus*** uses the remaining three characters for automatic numbering of the files—for

example, SLIDE000.GEM, SLIDE001.GEM, and SLIDE002.GEM. Note that the numbering starts with 000.

Multiple-Page .GMP File

> Available for Visible Layers, Slides, or Spot Colors.

The result is a single file with separate *pages* for each exported layer, slide, or color. Using the Output program, you can print this file or display it on the screen. For example, using the Slides option and a series of layers sharing one or more backgrounds, you can create an entire on-screen slide presentation in a single file.

Abandon Command

> The Abandon/Save alert is displayed (see chapter 3).

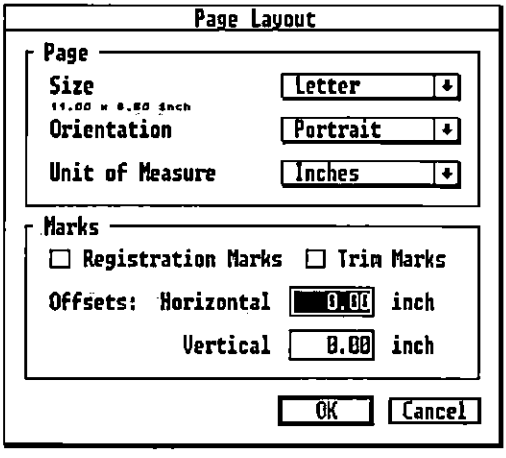
The **Abandon** command discards all unsaved changes to the picture you are working on and opens the current saved version of the file.

Page Layout Command

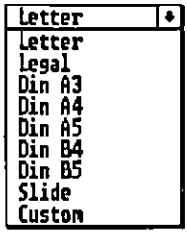
The **Page Layout** command displays the Page Layout dialog.

Page Options

The Page options menus allow you to specify the size of your paper, its page orientation, and the current unit of measure.

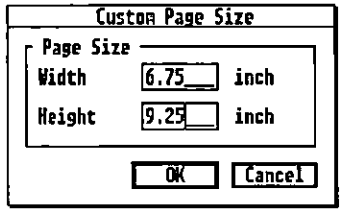


Size



The Size pop-up menu lists the standard American and European paper sizes, plus two special options:

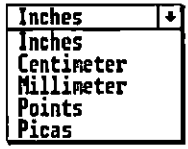
- The Slide option sets a page size with the same aspect ratio (height-width ratio) as a 35mm slide.
- The Custom option displays the Custom Page Size dialog so you can set a custom page size.



Orientation

Portrait is a vertical page orientation; Landscape is a horizontal page orientation.

Unit of Measure



The unit of measure chosen in this pop-up menu is reflected throughout **Key *Draw! Plus*** in the rulers and in all dialogs that have measurement fields.

Marks Options

The Marks options turn on registration marks and trim marks and set offsets for these marks.

Registration Marks

Registration marks are used for printing color separations. The marks, which are placed outside the picture's trim area (see the description of trim marks below), ensure that each color is accurately placed as the paper passes through the press.

Trim Marks

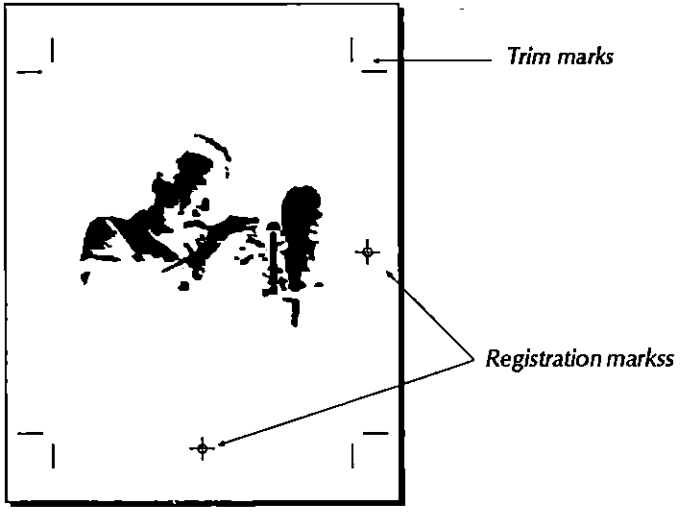
Trim marks indicate the actual size of the finished page. All paper outside the trim marks is cut away after the page is printed.

NOTE: Some programs refer to trim marks as "crop marks," a term that more commonly refers to the marks used to indicate where a photograph should be cut before it is pasted onto a layout page.

Offsets The offset values make it possible to specify a trim size smaller than the specified paper size. The values are measured from the edges of the paper and determine where the trim marks are placed on the page.

To calculate the trimmed size, subtract *twice* the offset value from each dimension. For example, on 8.5 by 11-inch paper, Horizontal and Vertical values of 1.0 and 1.5 inches, respectively, define a trim size of 6.5 inches by 8 inches.

When the offset values are zero, marks are visible only in Full view or a wider view.



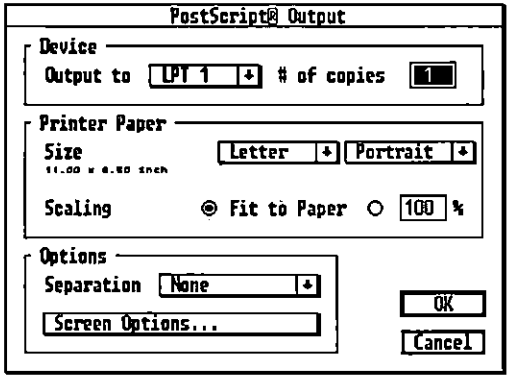
You can use offset values of zero when preparing files for a phototypesetter, where the actual sheet size is usually considerably larger than a standard piece of paper. To place trim marks that define your true page size, specify the actual trim size in the Size option and set the Marks offsets to zero.

NOTE: For trim marks and registration marks in PostScript output, you must turn them on in the PostScript dialog. See chapter 3.

PostScript Command

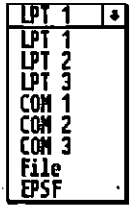
> You do not have to save the current file before starting PostScript output.

The **PostScript** command displays the PostScript Output dialog so you can print directly to a PostScript printer or create a file in the standard PostScript or the encapsulated PostScript format.



PostScript Output Dialog

> To stop PostScript output, press the [Esc] key.



Device Options

The "Output to" menu lists a choice of three parallel PostScript devices (LPT1 through LPT3), three serial devices (COM1 through COM3), and two file options.

For all options *except encapsulated PostScript* (described on the next page) you can specify as many as 99 copies. Type the number of copies directly into the field or use the pop-up slider.

File

The File option creates a file (with extension .C00) that you can print on a PostScript device. You could, for example, print to a file on a floppy disk and then:

- go to a print shop and print on a phototypesetter;
- take the disk to a computer connected to a PostScript printer.

To print on the PostScript device, use the operating system's **Copy** command in this format:

COPY FILENAME.C00 LPT1

[or **LPT2, COM1, COM2,** etc.]

> The directory path in the Item Selector must name a real directory, even though the file will not be written to it.

If you are on a network and your printer's device number is higher than those available in the "Output to" menu—LPT6, for example—you can print to a file whose name is the same as the device number. If, for example, you print to a *file* called LPT6, the operating system will intercept the file and send it to *device* LPT6.

EPSF

> The EPSF file includes only those layers currently visible on the screen.

The encapsulated PostScript option produces a file specifically intended for inclusion in documents created with programs like Xerox® Ventura Publisher® or Aldus® PageMaker®.

The Include Preview option adds a TIFF-format "snapshot" of the drawing surface to the file, so the file can be displayed in PageMaker or Ventura (Release 2.0 or higher). This option replaces the "# of copies" field.

> You can produce an EPSF file without saving the picture. See the caution on page 3-3.

The TIFF preview increases the size of the EPSF file by an amount ranging from 5Kb to 25Kb, according to the resolution of your screen and the size of the picture relative to the full drawing surface. The more the picture fills the drawing surface, the larger the preview.

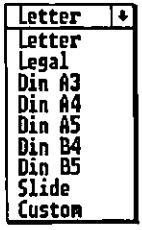
For files created with the preview option turned off, a large X fills the frame in Ventura. Although not visible on the screen, the picture will print correctly.

Printer Paper Options

> Printer Paper options are not available for EPSF output.

These options specify the size and orientation of the printer paper and a percentage for scaling the picture to the output page.

Size



The Size menu lists the standard American and European paper sizes, plus two special options:

- The Slide option sets a page size with the same aspect ratio (height-width ratio) as a 35mm slide.
- The Custom option displays the Custom Page Size dialog so you can set a custom page size.

Orientation

The orientation options in the PostScript dialog refer to how the paper is inserted into the printer; they are *not* the same as the options in the Page Layout dialog.

The Portrait option is for most typical PostScript printers; the paper is inserted vertically. The Landscape option is for wide-carriage PostScript printers and phototypsetters; the paper is inserted in a horizontal orientation.

Scaling

These options determine the size of the picture on the printed page.

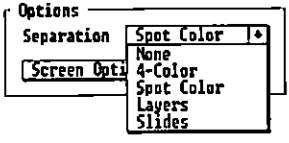
> The aspect ratio (relative height and width) of the original is maintained.

"Fit to Paper" enlarges or reduces the picture as needed to fit the selected paper size. The percentage field allows you to scale the picture to a specific size, ranging from 10% to 500% of its size in the file. At 100% the picture is printed in its original size.

If the picture size is larger than the paper size, the picture is cropped.

Separation Options

> Separation options are not available for EPSF output.

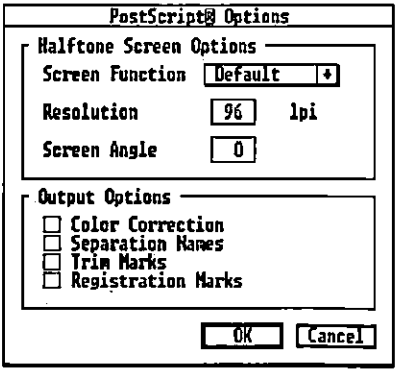


The Separation pop-up menu gives you these options:

None	There is no separation. Everything appears on one page or in a single file.
4-Color	The colors in the file are divided into the four process printing colors—cyan, magenta, yellow, black (CMYK). A separate page is printed for each color. (In file output, each color is stored as a separate page within the file.)
Spot Color	Each color in the file is printed on a separate page or is stored as a separate page within a file.
Layers	Every layer in the file is printed on a separate page or is stored as a separate page within a file.
Slides	The layers in the file are printed on separate pages or are stored as separate pages within a file. Background layers are printed only with the layers to which they are linked. Slides are described in chapter 10.

PostScript Screen Options

When you click on the Screen Options button, a new dialog appears on top of the PostScript Output dialog.



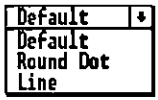
NOTE: PostScript Screen Options are not available for EPSF output. However, any fountain screens set with PostScript Fill Options (see chapter 12) do appear in EPSF output.

Halftone Options

The Halftone Options give you greater control over how your picture is printed in PostScript output.

Screen Function

> Unless you are experienced at halftone screening, it is strongly recommended that you use the device's screen values.



You can use the PostScript device's values for screen type, resolution, and angle or you can set your own values.

If you set your own values, first choose between a Round Dot screen and a Line screen. In a Dot screen, colors and shades of gray are created by varying the weight of colored or black and white dots. In a Line screen, colors and shades of gray are created by varying the thickness of parallel lines. Dot screen and line screen are illustrated in chapter 12.

Resolution

Screen resolution (also known as "halftone screen frequency") allows you to control the sharpness of halftones. Resolution for both dot screens and line screens is measured in *lines per inch* (lpi). Because the resolution of output devices is fixed—for example, 300 dpi for a typical laser printer and 2540 dpi for a phototypesetter—increasing the halftone resolution significantly reduces the number of available gray levels. This equation shows how the two are related:

$$lpi = \frac{dpi}{\sqrt{grays}}$$

or, stated another way:

$$grays = \left(\frac{dpi}{lpi}\right)^2$$

For example, on a 300 dpi printer, a resolution of 50 lpi produces thirty-six gray levels; a resolution of 100 lpi produces only nine gray levels. The resolution is twice as great, but the number of gray levels is one fourth what it was. (The effective resolution of solid colors is unchanged.)

Screen Angle

Screen Angle refers to the physical angle at which screens are printed relative to each other. This option is intended primarily for creating special effects in unseparated output and in spot color separations.

In 4-color separation, the screen angles are set automatically (to avoid undesirable moiré patterns in the ink) and override anything set with this option.

Output Options

This portion of the Set Screen Options dialog allows you to turn on the following:

- color correction
- separation names
- trim marks
- registration marks

Color Correction

Color correction is intended to compensate for two problems commonly encountered in printing color separations:

- Typical CMY inks are "contaminated," containing sometimes significant amounts of the other colors. For example, cyan usually contains 30% magenta, and magenta contains 50% yellow.

  This aspect of color correction is called *undercolor removal*, as it removes the colors that are "underneath" the main color. For example, without undercolor removal, an area where magenta overlaps cyan might contain too much magenta because of the magenta already in the cyan.

  The specifics of undercolor removal are:
  - Where yellow and magenta overlap, the yellow separation is reduced by 50% of the amount of magenta.
  - When magenta and cyan overlap, the magenta separation is reduced by 30% of the amount of cyan.
- The only way to get a good black is to use black ink, not by combining cyan, magenta, and yellow. Color correction adds enough black to give the colors extra intensity and contrast.

For more information on colors, see the discussion of color models in Chapter 12.

Separation Names This option places the name of the color separation on each page.

Trim Marks This option places trim marks on each page. Trim marks are important when the page size is different from the sheet size, often the case with phototypesetters. See the discussion of trim marks in this chapter.

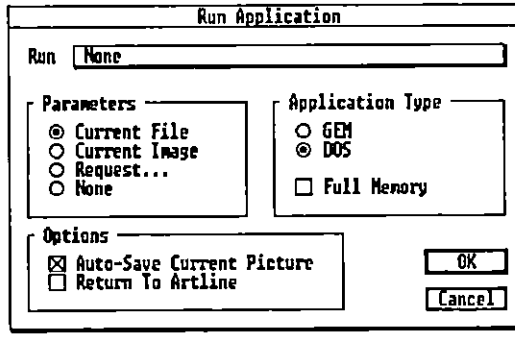
Registration Marks This option places registration marks on each page. Registration marks are essential for proper alignment of colors in color separations. See the discussion of registration marks in this chapter.

NOTE: To get trim marks and registration marks in PostScript output, you must turn on these options in the PostScript dialog, regardless of their state in the Page Layout dialog.

To App Command

The **To App** command allows you to start another application from **Key *Draw! Plus***, pass a file to that application, and then return to **Key *Draw! Plus*** when you are done.

When you choose the **To App** command, **Key *Draw! Plus*** displays the Run Application dialog:



The Run button displays the Item Selector so you can choose an application. The application does not have to be on the same drive as **Key *Draw! Plus***.

The Item Selector is described in chapter 1.

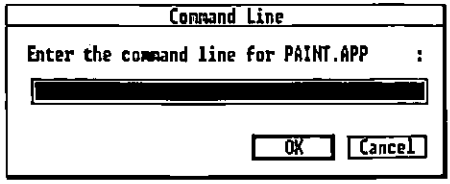
Parameters

These options determine the information passed to the application you are running. The information is often the name of a file, which is automatically opened when the other application starts.

Current File Select this option to pass the name of the current file to the other application.

Current Image Select this option to pass the name of the current background image to the other application, typically Scan*Xpress*™, or GEM® Paint™.

Request Select this option to display the Command Line dialog, which allows you to specify something other than the current picture or image.



If you are running an application like Presentation Team, enter a filename. Give the entire path, as in this example:

C:\REPORTS\MONTHLY\JANUARY.PTP

If you are running a DOS executable program, enter any parameters in this dialog.

None Select this option if you want to run the application without supplying a filename or any parameters.

Application Type These options identify the type of application you are starting.

GEM The application is a graphics-based program running under the same "system software" as **Key *Draw! Plus***. Select this option if you are running applications like Presentation Team, GEM Draw Plus or GEM® Desktop Publisher™.

CAUTION: Some GEM-based applications, including Xerox Ventura Publisher, should not be started in this manner. Ventura uses its own system software, different from **Key *Draw! Plus's.***

DOS The application is a "non-graphics" application—perhaps a word processor, database, spreadsheet, or one of the operating system executable files.

When you specify a DOS application, you can also identify it as a "Full Memory" application—one that requires a large amount of memory.

When a full-memory application is started, most of the underlying GEM system software is removed from memory to make room for your DOS application. As a result, returning to **Key**

Draw! Plus takes slightly longer than it would if you had not requested full memory.

Options These two choices determine what occurs before and after you run the other application.

Auto-Save Current Picture **Key *Draw! Plus*** automatically saves the current picture file before the other application is started.

Return to Key *Draw! Plus*

When you exit or **Quit** the other application, **Key *Draw! Plus*** is automatically re-started. When this check box is turned off, you exit to the operating system command line or wherever you were when you started **Key *Draw! Plus***.

To Output Command

> The Abandon/Save alert is displayed if the drawing surface contains unsaved work.

The **To Output** command starts the Output program so you can print the current picture file, display it in screen output, or make transparencies with a camera.

Output is described in the **Key *Draw! Plus*** Utilities Guide.

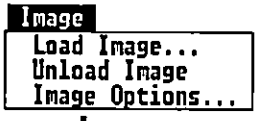
Quit Command

> The Abandon/Save alert is displayed if the drawing surface contains unsaved work.

The **Quit** command ends your session with **Key *Draw! Plus*** and returns you to the point from which you started, either the operating system command line or the GEM Desktop.

Image Menu

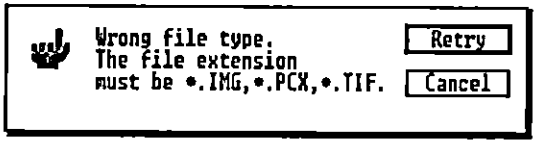
This chapter describes the Image menu commands, which are used in connection with image tracing. Chapter 11 describes image tracing in detail.



Load Image Command

> Image files serve only as a drawing aid for tracing. They cannot be edited with **Key *Draw! Plus***, and they cannot be saved as **Key *Draw! Plus*** files.

The **Load Image** command loads an image into the drawing surface background.. You can use the Trace tool, Quill, or other drawing tools to trace the image. You can load files in the IMG, PCX or TIFF formats (see "Valid Image File Formats" on the next page). If you change the extension in the Item Selector to anything else (.GEM, for example), **Key *Draw! Plus*** displays this alert:



Only one image can be loaded at a time. If you load a new image, the old image is removed; no alert is displayed.

Valid Image File Formats

This section provides more information on the supported IMG, PCX, and TIFF formats.

IMG and PCX Files

The following kinds of files can be loaded:

- black and white Line Art images: no restrictions.
- color Line Art images: a maximum of sixteen colors is supported.
- Grayscale images: files with sixteen or 256 grayscale values are supported.

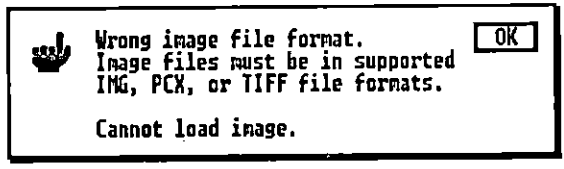
TIFF Files

There are several different formats used by programs generating TIFF files. The following are general guidelines describing the supported formats:

- black and white Line Art images: compressed and uncompressed formats are supported.
- color Line Art images: uncompressed and some compressed formats, both with a maximum of sixteen colors, are supported.
- Grayscale images: only uncompressed images with sixteen or 256 grayscale values are supported. Because of the dithering scheme used, images with 256 grayscale values will lose some information when displayed.

Invalid Formats

If the file you are trying to load is not in one of the supported image file formats, **Key *Draw! Plus*** displays this alert:



Unload Image Command

The **Unload Image** command removes the currently loaded image from the drawing surface background and from memory.

The image is deleted immediately; **Key *Draw! Plus*** does not display an alert. Do not use this command if you only want to check the progress of your tracing; use the **Image** command in the View menu or the **[F9]** key instead.

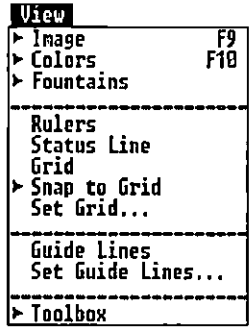
Image Options Command

The **Image Options** command displays the Image Options dialog. The settings in this dialog control how an image is displayed.

The Image Options dialog and its settings are described in chapter 11.

View Menu

This chapter describes the commands in the View menu. Several of these commands enable you to use features of **Key *Draw! Plus*** that make possible great precision in your drawings.



Toggles

Most of the View menu commands are *toggles*. They function like a light switch, turning something on and off. For example, the **Rulers** command turns the rulers on (displays them) or, if the rulers are already on, turns them off (removes them from the screen).

When in its "on" state, the command is flagged with a marker in the menu. (In the illustration above, the **Colors** command is one of several that are toggled on. The **Rulers** command is toggled off.)

Image Command

> Image tracing is described in Chapter 11.

The **Image** command toggles the display of an image loaded for tracing on and off. Its keyboard command equivalent is [**F9**].

You can check the progress of a tracing with the image turned off. (The image is still in memory. To remove an image from memory, choose the **Unload Image** command from the Image menu.)

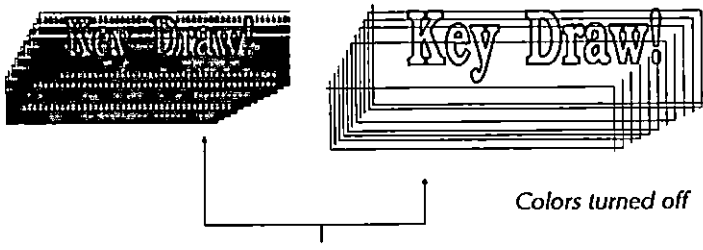
Colors Command

> When colors are turned off, all elements appear as thin black outlines.

The **Colors** command toggles the display of all fill colors, fountains, line colors, and other line attributes on and off. The keyboard command equivalent is **[F10]**.

Turning off colors reduces the amount of time required to draw elements on the screen and can greatly speed your work in **Key *Draw! Plus***. (There is one exception. See the Caution below.)

Colors are automatically turned off when you select the Plane tool.



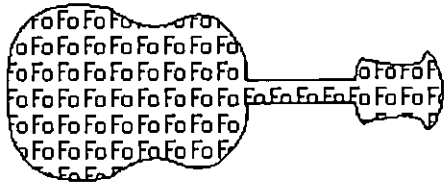
You can turn colors back on with the **Colors** command and continue working with the Plane.

CAUTION: Do not turn off colors when working with masked elements, especially complex ones. The redraw time for masks can be sustantially longer with colors turned off.

Fountains Command

The **Fountains** command toggles the display of fountains off and on. Turning off fountains can improve **Key *Draw! Plus***'s speed in drawing elements, especially those that contain fountains drawn at an angle

When fountains are turned off, the fountain is replaced by the fill pattern shown below.



The **Colors** command overrides the **Fountains** command. If colors are turned off, the fountained element appears as an outline. When colors are turned back on, the state of the fountained element is determined by the **Fountains** command.

Rulers Command

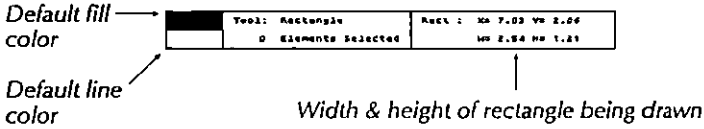
The **Rulers** command toggles the display of the rulers on and off. The rulers use the Unit of Measure set in the Page Layout dialog.

Status Line Command

The **Status Line** command is a toggle that turns the display of the status line on and off.

The status line always gives this information:

- current defaults for fill and line color
- name of current tool selected
- number of elements selected
- X and Y values of the pointer's current position

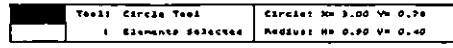

Default fill color
Default line color
Tool: Rectangle
0 Elements Selected
Rect : X= 7.03 Y= 2.66
W= 2.54 H= 1.21
Width & height of rectangle being drawn

The pointer's X and Y values are measured from the upper left corner of the drawing surface. The values use the current Unit of Measure from the Page Layout dialog. When the pointer is off the left side of the drawing surface or above it, the status line shows negative values.

The additional information displayed in the status line depends on the currently selected tool or action:

- Selector tool: The status line display depends on what you are doing:
  - moving elements: the change in the mouse's X and Y positions. Positive values indicate that you are moving the element down or to the right; negative values indicate movement up or to the left.
  - scaling elements: horizontal and vertical scaling values.
  - moving the guide lines: the guide lines' current position, measured from the upper left corner of the drawing surface.
- Rectangle tool: the width and height of the rectangle you are drawing.
- Circle tool: the horizontal and vertical "radius" of the circle or ellipse you are drawing.

- Line Tool: the angle of the line you are drawing.
- Rotator Tool: the current rotation angle.
- Flipper Tool: the current flip angle.
- Rolling Pin Tool: horizontal and vertical scaling percentages.



Grid Command

> The **Grid** command is not available when the grid spacing is set to zero. See the description of the **Set Grid** command.

The **Grid** command toggles the display of the grid on and off. The grid is a pattern of dots—at intervals set with the **Set Grid** command—that aid in the drawing and placement of elements.

Snap to Grid Command

> The **Snap to Grid** command is not available when the grid spacing is set to zero. See the description of the **Set Grid** command.

The **Snap to Grid** command toggles the *grid snap* on and off. Grid snap has two meanings, depending on when you use it.

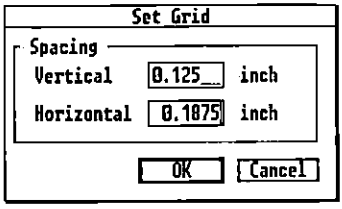
- When you are drawing elements:

  All points—corners of rectangles, anchor points, and so on—automatically "snap" (attach themselves) to the grid point nearest to the location at which you clicked or to which you dragged. Grid snap allows you to draw elements in precise sizes and at precise locations on the drawing surface.
- When you are moving or scaling elements with the Selector or moving anchor points or direction points with the Plane: The pointer moves by exact multiples of the grid's current horizontal and vertical spacing (see the **Set Grid** command, next). Elements or points snap to a grid point only if they start from one.
  In this case, the command is more "Snap by Grid Increments" than **Snap to Grid.**

NOTE: When **Snap to Grid** *is turned on, elements snap to the grid or move by grid increments whether the grid is visible or not. The one exception is the Sketch tool, which never snaps to the grid, regardless of the state of this command.*

Set Grid Command

The **Set Grid** command displays the Set Grid dialog.



Spacing

These fields set the Vertical and Horizontal spacing of the grid points, using the Unit of Measure currently set in the Page Layout dialog. Note the following:

- Acceptable values vary according to the current unit of measure. For Inches, the acceptable values are multiples of one sixteenth of an inch (0.0625).
  If you enter an invalid number, the field is automatically reset to the nearest valid multiple *lower* than the number you entered.
- The default value for grid spacing is a single unit of the current unit of measure—for example, 1 inch if the Unit of Measure is Inches.
- If you try to enter a value larger than the maximum allowed in these fields; **Key *Draw! Plus*** displays an alert and then sets the value to the maximum.
- The Vertical and Horizontal values do not have to be the same; the grid does not have to be a square.

When the Spacing values are set to zero—in other words, when there is no grid—the **Grid** and **Snap to Grid** commands are not available.

Guide Lines Command

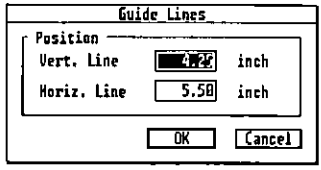
The **Guide Lines** command toggles the guide lines on and off.

The purpose of the guide lines is to help you place elements on the drawing surface. In addition, you can use the guide lines in conjunction with specific commands to:

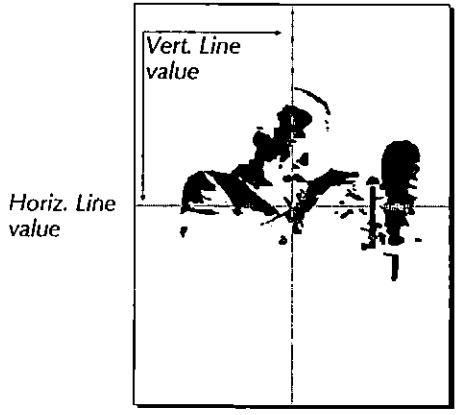
- align elements
- rotate elements
- scale elements

Set Guide Lines Command

The **Set Guide Lines** command displays the Set Guide Lines dialog so you can locate the guide lines precisely on the drawing surface.



The position of the guide lines is measured from the upper left corner of the drawing surface.



The value in the Vert. Line field sets the position of the vertical guide line relative to the left edge of the drawing surface. The value in the Horiz. Line field sets the position of the horizontal guide line relative to the top edge of the drawing surface. When initially displayed, the guide lines intersect at the center of the drawing surface, and the values are half the width and height of the current page size.

You can also move the guide lines by dragging them with the Selector tool. For greater accuracy, display the status line first.

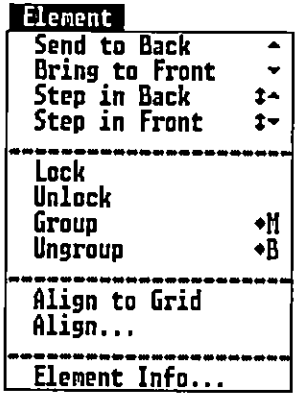
Toolbox Command

The **Toolbox** command toggles the display of the toolbox off and on.

When the toolbox is turned off, a somewhat larger workspace is available. Before turning off the toolbox, make sure you select the tool you want to use; you cannot select tools while the toolbox is not displayed.

Element Menu

This chapter describes the commands in the Element menu, which affect only selected elements in the active layer.



Element Order

Several of **Key *Draw! Plus***'s features—including blends and masks—are affected by the order of elements in the stack. (See the discussion of stacks in Chapter 1.)

The first four commands in the menu—**Send to Back, Send to Front, Step in Back**, and **Step in Front**—change the order of selected elements in the stack.

Each command can work on a single element, on several elements, and on grouped elements.

Send to Back Command

Keyboard command: down-arrow.

The **Send to Back** command moves selected elements to the bottom of the stack.

If you select several elements to **Send to Back**, all are sent to the bottom of the stack, but their order relative to each other is maintained.

Bring to Front Command

Keyboard command: up-arrow.

The **Bring to Front** command moves selected elements to the top of the stack.

If you select several elements to **Bring to Front**, all are brought to the top of the stack, but their order relative to each other is maintained.

Step in Back Command

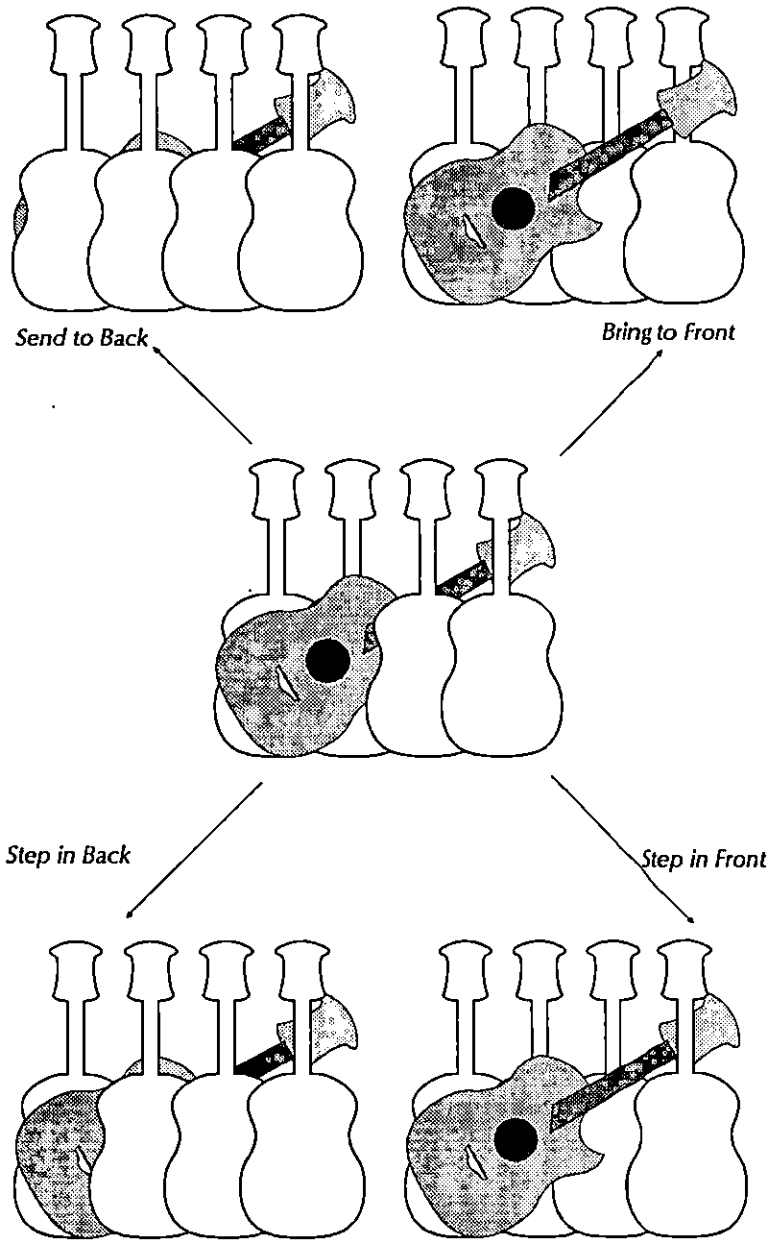
Keyboard command: [**Shift**] down-arrow.

The **Step in Back** command moves selected elements down one level in the stack.

Step in Front Command

Keyboard command: [**Shift**] up-arrow.

The **Step in Front** command moves selected elements up one level in the stack.

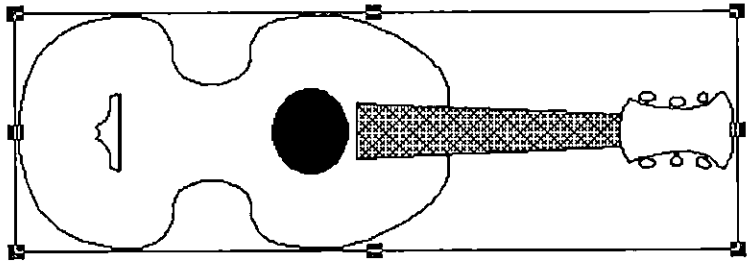

Send to Back
Bring to Front
Step in Back
Step in Front

Lock Command

The **Lock** command "locks" selected elements or groups so that they cannot be changed in any way. You cannot delete or move locked elements, change their fill or outline colors, mask or blend them. The only thing you can do to locked elements is unlock them.

Locking elements is especially useful if you are creating a complex picture and want to safeguard specific parts of the picture from accidental changes. (You can also protect parts of your pictures by separating them onto layers. See Chapter 10.)

When you click on a locked element with the Selector, **Key *Draw! Plus*** indicates that it is locked by using a different kind of handle—a hollow square at the corners only, as shown below.

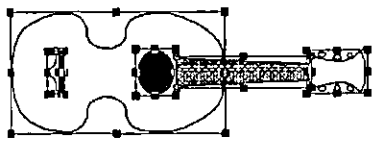


Unlock Command

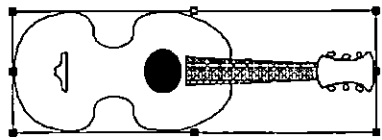
The **Unlock** command changes selected locked elements or groups back to their regular state. The standard element handles are restored, and you can again delete, copy, move, change color, and so on.

Group Command

The **Group** command makes all selected elements into a group, which **Key *Draw! Plus*** then treats as a single element. The group is enclosed within a single selection frame.



Ungrouped

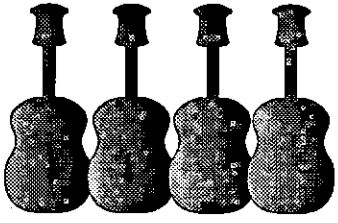


Grouped

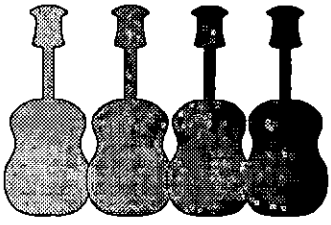
You can do almost anything to a group that you can do to a single element: move, copy, delete, rotate, and so on.

Characteristics of Groups

- When you group elements, they are automatically brought to the top of the element stack. The order of the elements in the group relative to each other is unchanged.
- When you change the size of a group, you change the size of every element in the group proportionally.
- Elements in a group can have different colors or fountains and different line attributes. However, if you assign a color, fountain, or line attribute after you make the group, it will appear in every element in the group.
- The appearance of fountains in grouped elements depends on whether you assign the fountain to the elements before or after you make the group.
  - ➢ If you assign the fountain before you group the elements, each element contains the full color range of the fountain.
  - ➢ If you assign the fountain after you group the elements, the entire group is treated as a single element, and the color range of the fountain is applied to the entire group.



Fountains assigned before grouping



Fountain assigned after grouping

- Groups cannot be merged or blended and cannot be used as a path element for text along a path.
- You can *nest* groups within groups, up to a maximum of ten "levels." For example, you could group two elements, then select a third element and group it with the group.

Ungroup Command

The **Ungroup** command breaks a selected group into its component elements or groups.

Ungroup is the exact reverse of **Group**. If you create a nested group with a series of five **Group** commands, it takes five **Ungroup** commands to break it apart entirely.

Align to Grid Command

The **Align to Grid** command snaps selected elements to grid points in the following manner:

- single element or group

  The upper left corner of the selection frame snaps to the first grid point *above and to the left* of its current position. If the element or group is already on a grid point, it does not move.

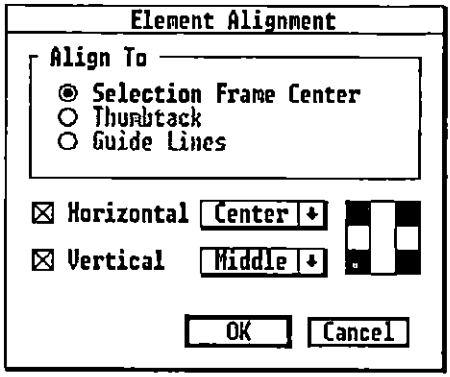
- two or more elements

  The elements are aligned as if they were a group. The upper left corner of an imaginary frame enclosing the selected elements snaps to the first grid point above and to the left. The position of the elements relative to each other is unchanged.

NOTE: **Align to Grid** *works whether or not the grid is visible or the grid snap is turned on. The command is not available when the grid spacing is set to zero—in other words, when there is no grid. See the description of the* **Set Grid** *command in chapter 5.*

Align Command

The **Align** command allows you to align selected elements several different ways and to several reference points. When you choose the **Align** command, **Key *Draw! Plus*** displays the Element Alignment dialog.



Align To

This option determines the point of reference used for alignment.

Selection Frame	Elements are aligned to the center, corners, or midpoints of an imaginary frame enclosing them.
Thumbtack	Elements are aligned to the position of the Thumbtack.
Guide Lines	Elements are aligned to the guide lines. The guide lines are described in chapter 5.

Horizontal and Vertical Alignment

Use Horizontal settings to align elements to the left, center, or right and Vertical settings to align to the top, middle, or bottom. You can combine Horizontal and Vertical alignment options. See the examples on the next page.

To select an alignment option:

- Display the Horizontal or Vertical menu and choose the alignment from the menu.

- Drag the alignment tool bars to the position you want. The name of the alignment you have chosen appears in the pop-up bar.

  Note that the vertical bar controls Horizontal alignment (left to right) and the horizontal bar controls Vertical alignment (top to bottom).

- Click in the gray area of the alignment tool where you want the elements aligned. For example, for an upper right alignment, click in the upper right corner of the alignment tool.

To turn off alignment in one direction:

Click on the box to the left of the alignment name so that no X appears. When an alignment is turned off, its pop-up bar is grayed out, and the aligning tool for that direction is not displayed.

Element Info Command

> Double-clicking on the selected element has the same effect as choosing the **Element Info** command.

The **Element Info** command displays one of several different dialogs, depending on the type of element that is currently selected, as described below.

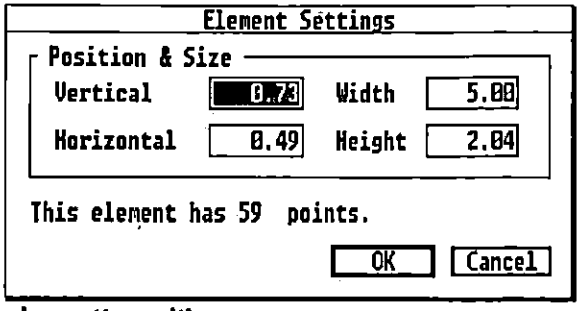
The command is available only for a single element or group—anything within a single selection frame. You cannot choose **Element Info** when more than one element has been selected.

The following table lists the dialogs displayed by the **Element Info** command.

element type	dialog displayed
elements drawn with Quill, Trace, Sketch, Rectangle, Circle, and Line tools	Element Info
groups	Element Info
merged elements	Element Info
text converted to curves	Element Info
text (not converted to curves)	Create Text Element
text along a path	Text Along a Path
blends	Blend Elements
masks	Mask Elements

Element Info Dialog

You can use the Element Info dialog to place an element precisely on the drawing surface, set an exact size, or to find out how many points or elements it contains.



To set an element's position:

Enter values in the Vertical and Horizontal fields. These values set the location of the upper left corner of the frame enclosing the selected elements. The distances are measured from the upper left corner of the page.

To set an element's size:

Enter values in the Width and Height fields. These values set the width and height of the frame enclosing the selected elements. This frame is always a rectangle.

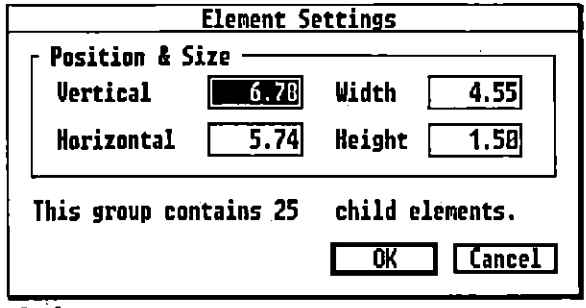
Counter

The Element Info dialog's counter tells how many points an element contains or, in the case of groups, how many elements are contained in the group.

When the selected element is a group or text converted to curves (which is treated as a group), the counter tells how many "child" elements the group contains. See the illustration on the next page.

Text Elements

For selected text, **Element Info** displays the Create Text Element dialog so you can edit the text or choose a different font, point size, line spacing, or alignment.



Masked Elements

For selected masks, **Element Info** displays the Mask Elements dialog so you can choose whether to draw the mask element. Masking elements is described in chapter 8.

Blended Elements

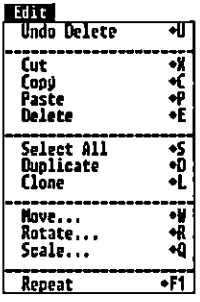
For selected blends, **Element Info** displays the Blend Elements dialog so you can choose a different number of steps for the blend or reverse the curve direction. Blending elements is described on page 8-8.

Text Along a Path

For selected text along a path, **Element Info** displays the Text Along a Path dialog so you can choose a different text scaling option, whether to show the path element, or whether to rotate the text around the path. Text along a path is described in chapter 8.

Edit Menu

This chapter describes the commands in the Edit menu. Most of the Edit menu commands affect the currently selected element or elements on the drawing surface.



Undo Command

The **Undo** command allows you in several cases to cancel your last action and restore the drawing surface to the way it was.

You can undo the effects of these tools and commands:

- **Delete** command
- Selector tool (move or scale)
- Rotator tool
- Flipper tool
- Rolling Pin tool
- **Align** command
- **Align to Grid** command
- **Move** command
- **Rotate** command
- **Scale** command
- **Repeat** command

The command name that appears in the menu is **Undo** followed by the name of the action to be undone—like **Move, Scale,** or **Align.**

Cut Command

The **Cut** command removes the selected elements from the drawing surface and places them in the *paste buffer.*

Paste Buffer

The paste buffer is an area of your computer's memory reserved for elements that you cut or copy. The contents of the paste buffer can then be pasted back onto the drawing surface.

The paste buffer is "one level deep." Each time you cut or copy something to the buffer, the previous contents of the buffer are cleared out and can no longer be pasted.

Copy Command

The **Copy** command places copies of the selected elements in the paste buffer. The original elements
remain on the drawing surface.

Paste Command

The **Paste** command takes the contents of the paste buffer and places it on the active layer of the picture.

Pasting does not empty the buffer. You can **Paste** the contents of the buffer as often as you want. When you quit **Key *Draw! Plus***, however, the paste buffer is emptied.

Cutting and Pasting Between Files or Layers

You can use **Cut** and **Paste** (or **Copy** and **Paste**) to take something from one file or layer to another file or layer.

To cut and paste between files:

1. Select and **Cut** (or **Copy**) the elements you want.

   Because the paste buffer is only one level deep, you must select and cut *all* the elements you want.

   > The **New** command and **Open** command do not affect the contents of the paste buffer.

2. Choose the **New** command or the **Open** command, depending on whether you want to paste the elements into a new file or an existing file.
   When the "Abandon/Save" alert is displayed, save or abandon the current file.
3. Choose the **Paste** command to paste the elements into the file now in the workspace.

To cut and paste between layers:

1. Select and **Cut** (or **Copy**) the elements you want.
2. Use the Layer Selector to select the layer into which you want to paste the elements.
3. Choose the **Paste** command to paste the elements into the active layer.

Delete Command

The **Delete** command removes the selected elements from the drawing surface, but does *not* place them in the paste buffer.

Delete is the command to use when you want to throw something out. You can still "undelete" the elements by choosing the **Undo Delete** command, as long as you have not done anything else in the meantime that can be undone.

Select All Command

The **Select All** command selects all the elements on the drawing surface. If the picture is divided into layers, the command selects all the elements on the active layer only.

CAUTION: Remember that, depending on the current view, the workspace might enclose only a portion of the drawing surface. The **Select All** *command can select elements that are not visible in the workspace. Actions that affect selected elements (like* **Delete***) can affect elements you don't see.*

Duplicate Command

The **Duplicate** command copies the selected elements directly onto the drawing surface. The copies are offset slightly below and to the right of the originals and are selected. If grid spacing has been set, the duplicate elements appear one grid increment below and to the right of the originals. (See the description of the **Set Grid** command in chapter 5.)

NOTE: The **Duplicate** *command does not use the paste buffer, so copying elements in this manner does not affect what is in the buffer.*

Clone Command

The **Clone** command copies the selected elements directly onto the drawing surface. Unlike the **Duplicate** command, **Clone** places the copies directly on top of the originals.

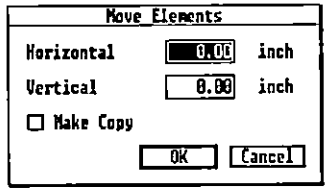
The **Clone** command can be used, among other things, in creating multi-color blends. See chapter 8.

Move Command

> You can also move elements with the Selector tool or the **Element Info** command.

The **Move** command displays the Move Elements dialog so you can move the selected elements a specified distance. This method of moving elements gives you greater precision than does moving elements with the Selector Tool. For example, to move an element exactly 1.6 inches, use the **Move** command.

Type directly into the Horizontal and Vertical fields, or use the pop-up



sliders to enter values. To move the elements to the left or toward the top of the drawing surface, enter negative values in the Horizontal and Vertical fields, respectively.

The Make Copy option makes copies. The original elements remain where they were, and the copies are moved by the distances specified in the dialog.

Rotate Command

> You can also rotate elements with the Rotator tool.

The **Rotate** command displays the Rotate Elements dialog so you can rotate the selected elements.

Rotate Around

> The illustrations on the next page show examples of the three centers of rotation.

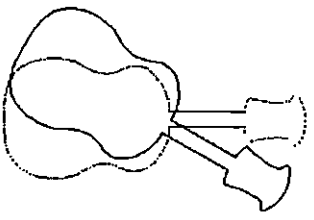
Use these buttons to select a center of rotation for the selected elements.

Selection Center A single element is rotated around the center of its selection frame. If you select more than

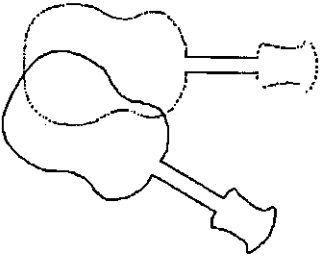
one element to rotate, the elements are treated as if they were a group and are rotated around the center of an imaginary selection frame enclosing them.

Thumbtack The Thumbtack serves as the center of rotation for a single element or for the imaginary selection frame enclosing more than one selected element.

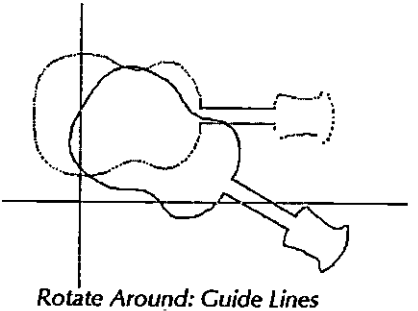
Guide Lines The intersection point of the guide lines serves as the center of rotation for a single element or for the imaginary selection frame enclosing more than one selected element.



Rotate Around: Selection Center



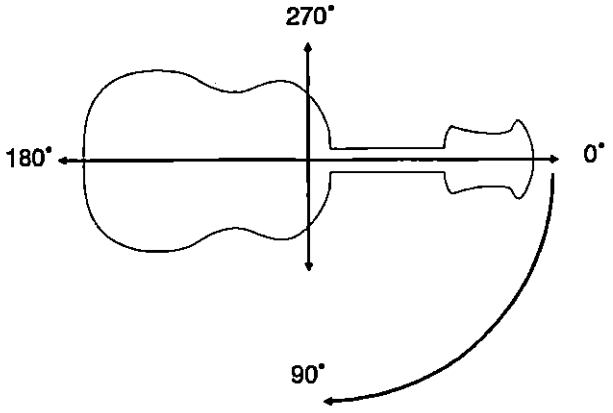
Rotate Around: Thumbtack



Rotate Around: Guide Lines

Rotation Angle

This field determines the angle through which the element (or elements) will be rotated. Type directly into this field or drag the pop-up slider to enter a value. Elements are rotated *clockwise*.



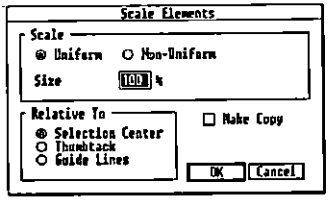
Make Copy

The Make Copy option makes copies rotated by the angle specified in the dialog. The original elements remain where they were.

Scale Command

> You can also scale elements with the Selector tool or the **Element Info** command.

The **Scale** command displays the Scale Elements dialog so you can *scale* (change the size of) selected elements.



Scale Options

Use these options to choose uniform or non-uniform scaling and to choose the scaling percentage.

NOTE: The scaling values are percentages of the original. 100% is the element's original size. 50% is half size; 200% is twice the original size.

Uniform The height and width of the elements are scaled equally, and the proportions of the elements are unchanged from the original.
When you choose Uniform scaling, a single

Size field is available. Type a percentage directly into the field, or use the pop-up slider to set a percentage. This percentage is used for both horizontal and vertical scaling.

Non-Uniform The height and width of the elements are scaled separately, allowing you to change the proportions of the originals.

When you choose Non-Uniform scaling, separate Horizontal and Vertical fields are displayed. Type percentages directly into the fields, or use the pop-up slider to set percentages.

Relative To

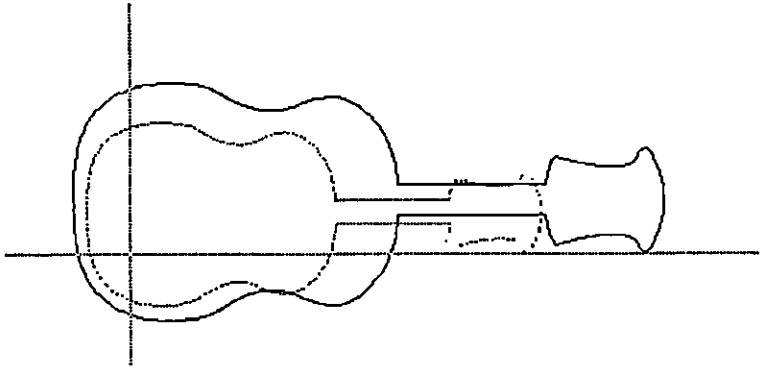
Use these buttons to select a point relative to which the selected elements will be scaled.

Selection Center A single element is scaled around the center of its selection frame. If you select more than one element to scale, the elements are treated as if they were a group and are scaled around the center of an imaginary selection frame enclosing them.

Thumbtack The Thumbtack serves as the scaling point for a single element or for the imaginary selection frame enclosing more than one selected element.

Guide Lines The intersection point of the guide lines serves as the scaling point for a single element or for the imaginary selection frame enclosing more than one selected element. The guide lines are described in chapter 5.

When you scale relative to the Thumbtack or guide lines, the distance of the element from the scaling point changes as well. In the illustration below, the element was scaled uniformly 130% relative to the guide lines.



The width and height of the element is 130% of the original, and its distance from the intersection of the guide lines is also 130% of the original.

If you scale an element non-uniformly—for example, 50% horizontal scaling and 200% vertical scaling—the resulting element is half as wide and twice as tall. The horizontal distance from the rotation center is half what it was before, but the vertical distance is now doubled.

Make Copy

The Make Copy option makes copies scaled by the percentage (or percentages) specified in the dialog. The original elements are unchanged.

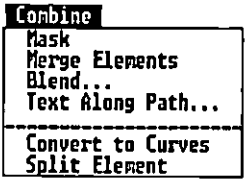
Repeat Command

The **Repeat** command repeats the last action of these tools and commands on selected elements:

- Selector tool (moving or copying)
- Rotator tool
- **Move** command
- **Rotate** command
- **Scale** command

Combine Menu

This chapter describes the commands in the Combine menu. These commands include the most powerful features of **Key *Draw! Plus***.

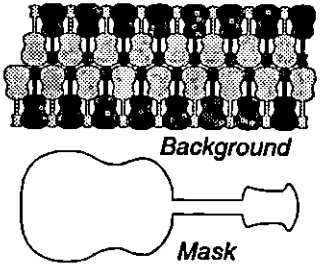


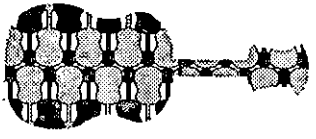
Mask Command

> To restore a masked element to its component elements, choose the **Split Element** command.

The **Mask** command creates a "cookie cutter" effect, making it possible for you to insert patterns and designs of your own creation into the elements you draw.

The **Mask** command combines a *mask* element with a background to create a single element. The shape of the final masked element is the shape of the area where the mask and background overlap (below).





Mask

The mask is the cookie cutter. Its shape determines the shape of the element created by the **Mask** command.

These rules apply to the mask element:

- The mask must be a single element, drawn with one of the drawing tools (like the Quill or the Rectangle tool) or created by the **Merge Elements** command. Merged elements are treated as a single element.
  You cannot use grouped elements as a mask.
- The mask must be the topmost of the selected elements.

To make sure the mask element is on top:

Select the element and then choose the **Bring to Front** command from the Element menu.

Background

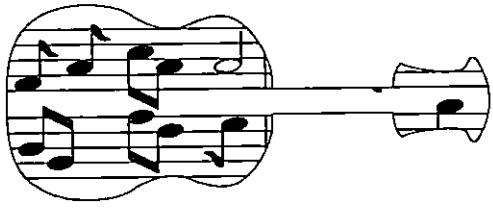
> The background cannot contain a fountain or another mask.

The background is the design that will appear inside the mask shape. It can include:

- one or more separate elements;
- grouped elements;
- merged elements.

Draw Mask Element Option

The Mask Elements dialog, displayed when you choose the **Mask** command, gives you the option of drawing the mask element. When Draw Mask Element is turned on, the mask element's complete outline is visible.



To re-display the Mask Elements dialog and change the setting of the Draw Mask Element option, double-click on the masked element.

Text as a Mask

To use text as a mask, you must convert it to a single non-text element.

To use text as a mask:

1. Using the Text tool, enter the text into the Create Text Element dialog. Choose the typeface, point size, alignment, and other attributes you want, and exit the dialog.

   At this point the text does not have to be where you will want it located as the mask. In fact, it is easier to do the text manipulations in the next step in an open part of the workspace.

2. Using the Selector, Rotator, or other appropriate tools, make the text the size and shape you want.

   > Once converted to curves, the text can no longer be edited as text.

3. If you haven't already, display the Combine menu and choose the **Convert to Curves** command.

   You may have already converted the text to curves, since that is required before you can manipulate the text with the Plane or Rolling Pin tools.

4. Display the Element menu and choose the **Ungroup** command.

5. Display the Combine menu and choose the **Merge Elements** command. The text is now merged into a single element that can be used as a mask element.

NOTE: Because text characters generally contain a larger number of points than other elements, you may find that you can use only a few words in your mask. To mask longer text strings, break the string into several separate masks.

Merge Elements Command

> To restore a merged element to its component elements, choose the **Split Element** command.

The **Merge Elements** command merges selected elements together to make a single element. In this new element, the areas where the original elements overlapped become hollow.

The two main characteristics of merged elements—that a single element is created and that the common areas become hollow—make it possible to do the following:

- create a mask element (including text)
- create a "window" to an element below

- create your own text characters

Creating text characters takes advantage of both features of merged elements.

In some respects, merging is the opposite of masking—a kind of "reverse cookie cutter." When you mask elements, **Key *Draw! Plus*** draws only the area shared by the two elements. When you merge elements, **Key *Draw! Plus*** draws everything *but* the area shared by the two elements.

Merged elements are not the same as groups. There are some important differences.

- You can use merged elements as mask elements; you cannot use groups as mask elements.
- You can edit the points of a merged element with the Plane tool; you cannot edit the points of a group.
- In a group, each element retains its original attributes: color, line width, and so on.
  In a merged element, all the elements take on the attributes of the element on the top.
- In a group, elements can sit on top of other elements. For example, you can put a red square on top of a blue circle.
  In a merged element, overlapping elements create a hollow area. A square inside a circle creates a circle with a square hole cut out of it.
- **Key *Draw! Plus*** treats merged elements as a single element. If you select a merged element and then display **Element Info**, the Element Info dialog tells you how many *points* the element has.

  If you select a group and then display **Element Info**, the Element Info dialog tells you how many elements the group contains.

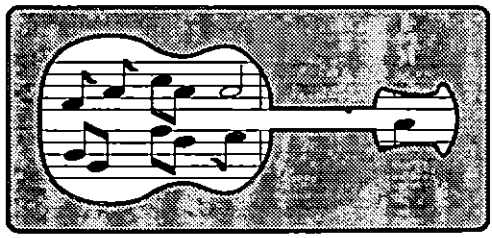
NOTE: You can merge as many elements as you wish, as long as the resulting merged element does not exceed the 255 point limit.

Creating a Window

Merged elements can create a window or border to elements underneath, a "picture frame" effect.

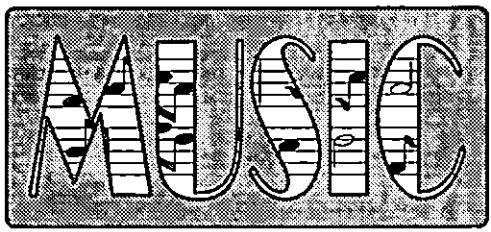
To create a simple window:

1. Draw and align the elements you want to merge—in this case, a rounded rectangle and a guitar.



2. The merged element will take the color and line attributes of the element *on the top*. Select one element, bring it to the top (if it is not already there), and assign its color and line attributes.
3. Select the elements you want to merge, display the Combine menu and choose the **Merge Elements** command. The elements are now merged.
4. Drag the merged element on top of the background design, which will now appear through the circular picture frame.

You can use text in your merge, although it must first be converted to curves and ungrouped.



To use text in a merge:

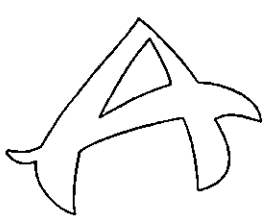
1. Enter the text using the Text tool and the Create Text Item dialog.
2. With the text selected, choose the **Convert to Curves** command from the Combine menu.
3. With the text still selected, choose the **Ungroup** command from the Element menu.
4. Select all the elements you want to merge and choose the **Merge Elements** command.

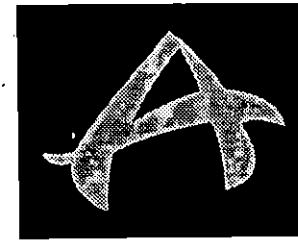
Creating Text Characters

By merging a letter's outline and its interior shape—in typographical terms, the *counter* or the *bowl*—you can create your own custom text characters.

> This technique is necessary only for letters with fully enclosed counters or bowls—like **A**, **B**, or **g**.

This method is especially useful for creating custom display characters for use in advertising, logos and letterheads, and presentations. Here is an example of a custom text character:





NOTE: Text characters created in this manner are actually graphic elements shaped like letters; they are not true text characters. You cannot enter or edit them with the Text tool.

Blend Command

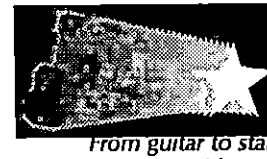
> Restore a blend to its component elements, choose the **Split Element** command.

The **Blend** command creates an element where the shape and color of one element blend over a specified series of steps into the shape and color of another element.

You can use blends for a variety of effects, including these:

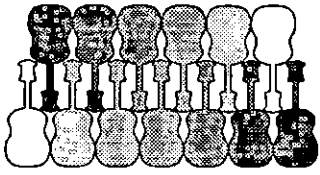
- metamorphosis—changing one object into something else entirely
- even spacing of elements—horizontal, vertical, or diagonal
- shading effects
- "rainbows"—blends of colors that produce the effect of a fountain containing more than two colors

From guitar to star in five steps



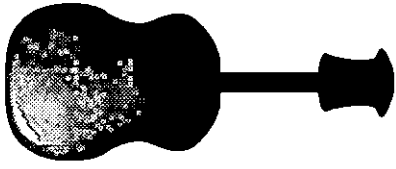
From guitar to star in 20 steps, with no outline, over a black background

To blend elements:

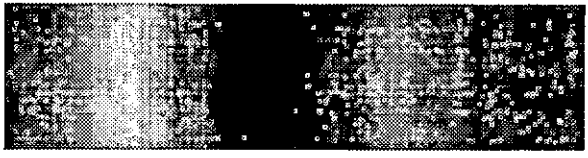


The two rows were created by blending from on e guitar to the other in four steps (top row) and five steps (bottom row).

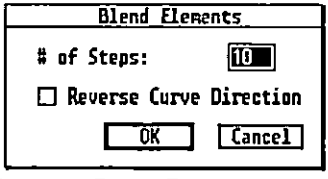
1. Select the two elements you want to blend.



2. Display the Combine menu and choose the **Blend** command. **Key *Draw! Plus*** displays the Blend Elements dialog.



3. Type a number directly into the "# of Steps" field or use the pop-up slider to enter a value. The number of steps—which refers to the number of intermediate steps between the start element and the end element—can range from one to ninety-nine.



Turn the "Reverse Curve Direction" option on or off. See the description and illustrations on the next page.

4. Exit the Blend Elements dialog. **Key *Draw! Plus*** draws the blended element.

NOTE: Blends always go from the element that is lower in the stack to the element that is higher in the stack.

To choose a different number of blend steps:

1. Double-click on the blended element. **Key *Draw! Plus*** redisplays the Blend Elements dialog.
2. Enter a new number into the "# of Steps" field.
3. Exit the dialog. **Key *Draw! Plus*** re-blends the two elements, using the new number of steps specified in the dialog.

Point Mapping

In a blend, the points on one element are *mapped* to the points on the other element. You could draw lines from a point on the start element through the intermediate steps to the corresponding point on the end element.

If one element has fewer points than the other, **Key *Draw! Plus*** adds points to it so that both have the same number. (These points are added only for blending; they go away if you split the blend.)

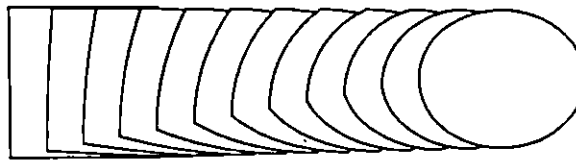
Reverse Curve Direction

On some elements the direction of the points from first to last is clockwise; on other elements the direction is counterclockwise. (You can check the point direction with the Plane tool—see chapter 2) If you blend from a clockwise element to a counterclockwise element, the result can be an undesirable corkscrew effect, as in the example below.

The "Reverse Curve Direction" option solves this problem by treating the end element of the blend as if its points were arranged in the reverse direction. For example, a counterclockwise element is treated as if it were a clockwise element, with the results shown below.

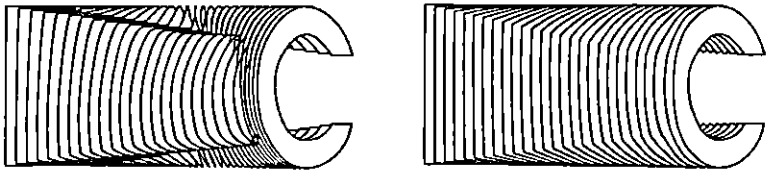
Blending Dissimilar Elements

Creating visually pleasing blends of dissimilar elements can require modification of the elements before blending.



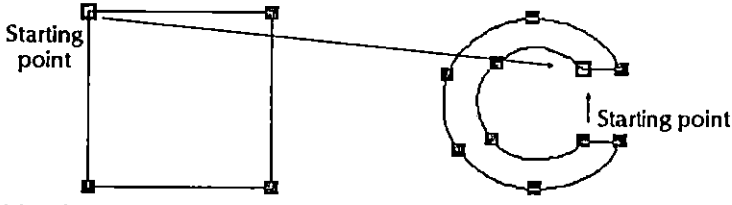
For example, blending a square to a letter C results in the effect on the left below. The desired effect is on the right.

> Exact number and location of points on text characters varies from one font to another.



The unmodified blend does not work successfully because the two starting points are located in different relative positions (the arrow in the illustration below shows how the starting points map from one element to the other) and the elements have a different number of points.

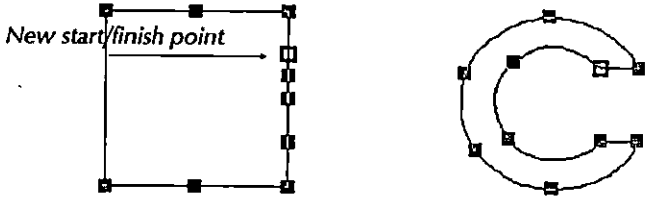
> Remember that the letter must first be converted to curves and then ungrouped.



To blend successfully, you must move the square's starting point and, because in this case you want the points on the square's right side to map to the inside of the C, you must add points to specific locations on the square (instead of letting **Key *Draw! Plus*** do it for you).

To modify the square:

1. Use the Plane tool (chapter 20 to add one point to the top and bottom of the square and four points to the right side.



2. Select the point on the right side nearest the upper right corner and split it (**Split Point** command—chapter 2).
   These points will become the new start and finish points of the square.
3. Select the old start and finish points at the square's upper left corner and join them (**Join Points** command—chapter 2).
   You can now blend the square to the letter. (You might have to reverse the curve direction to get the desired effect.)

Elements Not Allowed in Blends

These types of elements cannot be included in blends:

- grouped elements
- masked elements
- merged elements
- fountained elements
- text along path

Merged elements include text characters with fully enclosed counters—like "A" or "B"—and dotted letters like the lowercase "i." These characters are formed by merging a background shape with the counter or the main letter body with the dot.

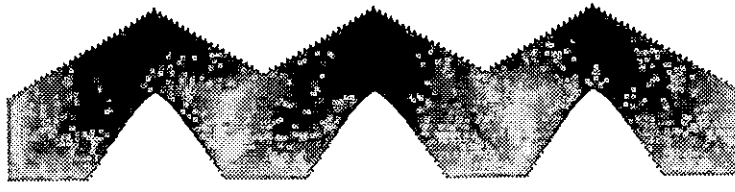
Colors in Blends

The intermediate colors contained in the blend are not added to the current color file. **Key *Draw! Plus*** keeps track of the colors for screen display and output to a printer or file. See the description of the **Convert to Curves** command.

Creating Rainbows

Using the **Blend** command, you can create a rainbow of colors and shapes. The technique involves multiple blends and precise placement of elements.

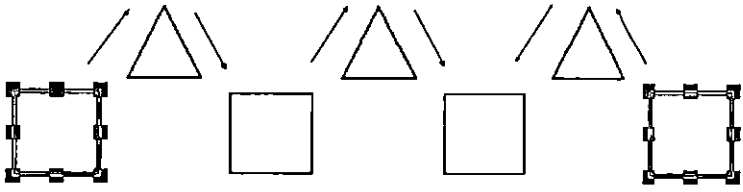
> Rainbow blends are especially effective when the elements have no outline.



There are many ways you can create an effect like this. Several of **Key *Draw! Plus***'s commands and other features are especially useful—notably the **Clone** command and the use of the **F4** key to select elements lower in the stack.

The example above was created with six blends of twenty-five steps each. With the exception of the squares at each end of the design, each element was cloned. The blend numbers below indicate the order of the blends in the stack, with the first blend on the bottom and the sixth on the top.

Text Along Path Command



Blend #1: from square to triangle

Blend #2: from clone of triangle to square

Blend #6: from square to triangle

Blend #5: from clone of square to clone of triangle

Blend #4: from clone of triangle to square

Blend #3: from square to triangle

> To restore text along a path to its component elements, choose the **Split Element** command.

The **Text Along Path** command fits a selected text element to a selected *path* element.

The path can be any single element, like curves drawn with the Quill or shapes drawn with the Circle, Rectangle, or Rounded Rectangle

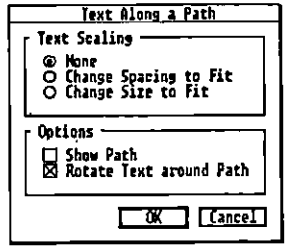
tools. You can also use merged elements, but the effect can be a little odd.

Groups or other combined elements cannot be used as paths.

Text Along a Path Dialog

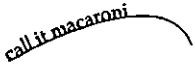
When you choose the **Text Along Path** command, **Key *Draw! Plus*** displays the Text Along a Path dialog.

Text Scaling



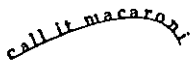
These options determine whether the text is scaled to fit the path element and, if so, how it is scaled.

None



The text is not scaled. Its point size and letter spacing are unchanged. If the path is shorter than the text, the text is cut off at the end of the path.

Change Spacing to Fit



The space between letters is increased or decreased to make the text fit the path. The text's point size is unchanged. If the path is shorter than the text, the letters will overlap each other to the degree required to make the text fit the path.

Change Size to Fit

The point size of the text is increased or decreased to make the text fit the path. The spacing between letters varies according to the point size. With this option the letters will not overlap each other.

Options

Show Path

When this option is turned on, the path element is drawn along with the text element. When the option is turned off, the text element is drawn to the shape of the path, but the path element itself is not drawn.

Show Path: OFF

Show Path: ON

Rotate Text Around Path When this option is turned on, the text orients itself to the curve of the path element. When the option is turned off, the text retains its orientation.

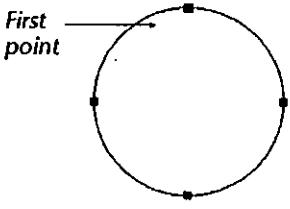
Text Rotation: ON

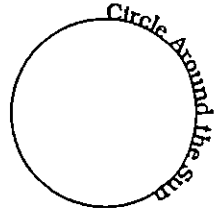
Text Rotation: OFF

Other Text to Path Effects

When you combine text to a path, the text string always starts from the first point of the path. The illustration below shows text combined to a circle.

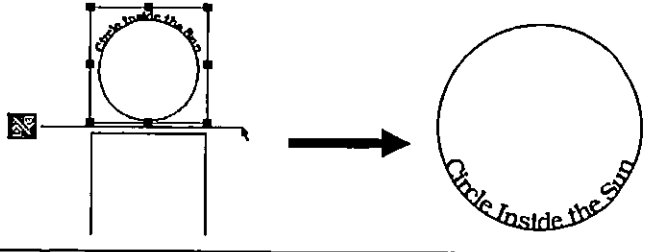
Circle Around the Sun





If this is not the effect you seek, you can rotate the path element before or after you combine it with the text.

To place inside a path, combine the text to the path as you would normally, and then flip the combined element.



Changing Options

You can change the options at any time by re-displaying the Text Along a Path dialog.

To change text along a path options:

1. Select the text along a path element.
2. Double-click on the element.
   Key *Draw! Plus* displays the Text Along a Path dialog.
3. Choose the options you want, and exit the dialog. **Key *Draw! Plus*** will redraw the text along a path element according to the new options you have chosen.

Editing Text Along a Path

Text along a path cannot be edited directly. First you must split the text apart from the path and then re-open the Create Text Element dialog.

To edit the text you have placed along a path:

1. Select the text along a path element.
2. Display the Combine menu and choose the **Split Element** command. The text along a path element is split back into separate text and path elements.
   The **Split Element** command is described in this chapter.
3. Select the text element and double-click on it. This displays the Create Text Element dialog.
4. Edit the text and then re-combine it with the path element.

Convert to Curves Command

The **Convert to Curves** command works on only two kinds of elements:

- text elements and text along a path
- blends

Text Elements and Text Along a Path

Convert to Curves converts a text element to a graphic element with the same properties as an element drawn with the Quill, Rectangle tool, or any of the other tools.

Text must be converted to curves before you can:

- use the Plane tool
- use the Rolling Pin

- merge text (for example, to use it as a mask element)

Before you convert text or text along a path to curves, keep these facts in mind:

- Any text element that is converted to curves—even if it is only a single character—is a *group*.
  A number of operations—merging, for one—cannot be done with groups. For that reason, you may still need to **Ungroup** the text after you convert it to curves.
  Once converted to curves, text can no longer be edited and cannot be converted back to a text element.
  If you have created a complex or lengthy text element or have scaled it very precisely, double-check the text one last time before you convert it to curves. If you have made a text-entry error, you can save yourself from having to re-enter the entire text element.
- Only what is visible on the screen is converted to curves. If the Show Path option is turned off, the path element is lost when text along a path is converted to curves.

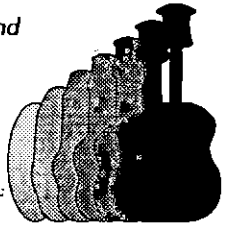
Blends

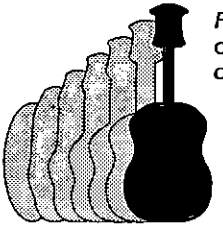
When a blend is converted to curves, it becomes a group containing the original start and end elements and the intermediate steps of the blend as elements.

You can break the group and select any of its component elements.

The intermediate elements take on the color and line attributes of the start element. (Otherwise, all the intermediate color steps would be added to your picture's color palette, creating a potentially very large color file.)

Five step blend





Five step blend converted to curves

Split Element Command

The **Split Element** command takes any of the combined elements—mask, merge, blend, or text along a path—and splits it back into its original components.

You might split combined elements:

- to reposition elements;

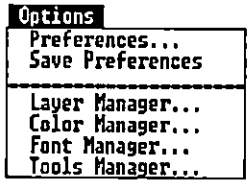
- to use another element;
- to change color in the elements;
- to edit text that has been placed along a path.

Before splitting elements, remember the following:

- Do not split a mask, blend, or text along a path if you simply want to change the options you chose when you combined the elements in the first place. To re-display the Mask Elements, Blend Elements, or Text Along a Path dialogs, double-click on the combined element.
- When merged elements are split, they are split into *all* their components. Keep this fact in mind when splitting merged elements containing text. Letters with fully enclosed counters—like A and O—and dotted letters are actually merged elements. Splitting them breaks them apart entirely—for example, making two circles out of an O.
- After you split a merged element, the separate elements all take on the color and line attributes of the merged element. The colors and line attributes the elements had before they were merged—if different from those of the merged element—are not restored.

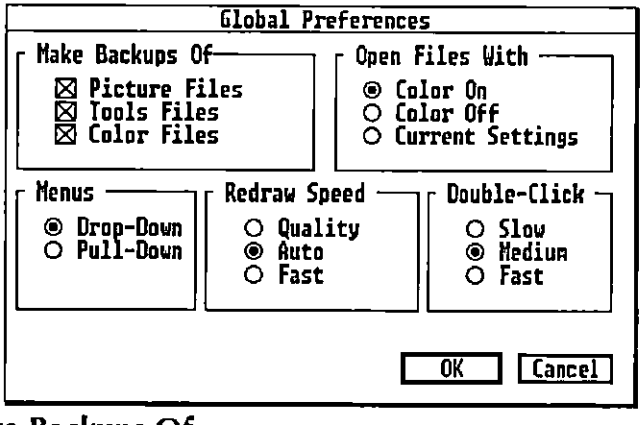
Options Menu

This chapter describes the commands in the Options menu. These commands allow you to set many of the characteristics of your **Key *Draw! Plus*** work environment.



Preferences Command

The **Preferences** command displays the Global Preferences dialog:



Make Backups Of

The last saved version of your picture file, tools file, or color files can be kept as backups. Turn backups off if you want to save disk space.

Picture Files When this check box is marked, **Key *Draw! Plus*** keeps a backup of your picture file when you choose the **Save** command from the main File menu.

> Backup picture files have the extension $EM.

Tools Files When this check box is marked, **Key *Draw! Plus*** keeps a backup of the tools file when you choose the **Save** command from the File menu in the Tools Manager.

Backup tools files have the extension $LS.

Color Files When this check box is marked, **Key *Draw! Plus*** keeps a backup of your color file when you choose the **Save** command from the File menu in the Color Manager.

Backup color files have the extension $OL.

Open Files With

This setting determines whether colors are displayed when you open a file.

Colors On When you open a file, all colors and fountains are displayed. This setting overrides the current setting of the **Colors** and **Fountains** commands in the View menu.

Opening a file with **Colors On** automatically turns the **Colors** command on (if it is isn't already).

Colors Off When you open a file, no colors and fountains are displayed. This setting overrides the current setting of the **Colors** and **Fountains** commands in the View Menu.

Opening a file with **Colors Off** automatically turns the **Colors** command off (if it is isn't already).

Turning colors off can speed up the display of your pictures. Pictures with a lot of colors or fountains or with many blends can take a long time to draw with colors turned on.

NOTE: There is one exception to this general rule. Some masks—depending on their complexity—can actually take longer to draw with colors turned off.

Current Settings When you open a file, colors and fountains are displayed according to the current settings of the **Colors** and **Fountains** commands in the View menu.

Menus

This option determines how you display **Key *Draw! Plus***'s menus, in the main window and in the Layer Manager, Color Manager, and Tools Manager. **Key *Draw! Plus***'s menu functionality is described in chapter 1.

Redraw Speed

> Redraw speed has no effect on the quality of your printed output.

This option lets you choose between how precisely and how fast elements are drawn on the screen.

Quality Elements are drawn as well as the resolution of your screen will allow. With this setting, complex pictures can take a long time to draw at Full view or any wider view of the drawing surface. See chapter 2 for a description of views.

Auto **Key *Draw! Plus*** uses the Quality redraw at all views except Full view and any wider views, where it uses the Fast redraw. The Auto setting (the default) is intended to give you the best of the other two options—a precise redraw where the screen can display it and a fast redraw where the precise redraw would not show up well.

Fast Elements are drawn as fast as possible, regardless of the current view. Curves might not appear smooth, but could appear as a series of line segements.

Double-Click

This option determines how fast you must press the mouse button for a double-click. Your selection is entirely a matter of personal preference.

Save Preferences Command

The **Save Preferences** command saves a new set of defaults for your next **Key *Draw! Plus*** work session.

Defaults are saved in a file called KEYDRAW.INI, which is in the same directory as the **Key *Draw! Plus*** program file.

These are the defaults saved by the **Save Preferences** command:

- all choices in the Global Preferences dialog
- all choices in the Page Layout dialog
- current size and position of the window
- most recent directory paths for:
  - opening picture files (.GEM, .EPS)
  - loading image files (.IMG, .PCX, .TIF)
  - PostScript file output
  - loading fonts
  - loading color files
  - loading tools files
- current state of rulers and status line
- current state of grid and grid snap
- current position and state of guide lines
- PostScript output parameters
- image options:
  - foreground and background colors
  - pattern
  - scaling
  - image offsets
- current set of fonts and their attributes—Resident/Download/Vector
- current toolbox configuration

The next time you start **Key *Draw! Plus***, these defaults will be in effect.

Restoring the Original Defaults

When first installed, **Key *Draw! Plus*** has a "default set" of defaults.

If you have saved preferences and then want to restore the original set of defaults, you have two options:

- If you do not mind losing the defaults you have saved, delete the file KEYDRAW.INI.
- If you do not want to lose the defaults you have saved, rename KEYDRAW.INI to something like KEYINI.SAV or KEYDRAW.INX.

In either case, **Key *Draw! Plus*** will create a new KEYDRAW.INI the next time you start the program.

Layer Manager Command

The **Layer Manager** command displays the Layer Manager so you can add or modify layers or set their attributes.

Layers are described fully in Chapter 10.

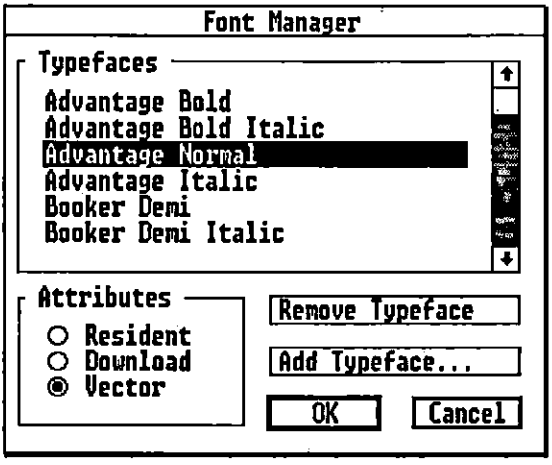
Color Manager Command

The **Color Manager** command displays the Color Manager so you can add or modify colors and fountains, load or modify color files.

Color management is described fully in Chapter 12.

Font Manager

The **Font Manager** command displays the Font Manager.



Typefaces

This window lists the typefaces that are currently available. The names that appear in this list are the same as those appearing in the pop-up menu in the Create Text
Element dialog.

You can select a typeface from the list, either to set attributes or to remove it from the list.

To select a typeface:

1. Scroll the window (if necessary) to bring the name into the window.
2. Click on the typeface's name. **Key *Draw! Plus*** highlights the name to indicate that it is selected.

Attributes

> These options apply only as long as text remains true text. Once converted to curves, text becomes a purely graphical element.

In **Key *Draw! Plus***'s default setup, your printer receives text characters as patterns of lines and curves. Although you can still edit the text, from the printer's point of view the characters are no different from elements drawn with the Quill or other tools.

Text characters can, however, be very complicated patterns, and pictures that contain a great deal of text can take a long time to print.

If you have a PostScript printer, the Attributes options can increase the speed with which text is printed. Note, however, that the attributes are available only when printing with **Key *Draw! Plus***'s **PostScript** command and not with the Output program.

To set attributes, select a font name from the list and then click on one of the Attributes buttons.

Resident

PostScript printers have a set of *resident* fonts, for which all the information necessary to draw the characters is already in the printer. These fonts are often identified in a startup sheet that is printed when you first turn on the printer. **Key *Draw! Plus***'s names for the PostScript resident fonts are listed in Appendix A.

To increase printing speed, set the attribute of each of the resident fonts to Resident. When you print, **Key *Draw! Plus*** tells the printer what characters it wants, and the printer draws them from the resident set.

NOTE: In many PostScript printers the resident Courier font cannot reproduce the fill or style attributes you can set in **Key *Draw! Plus***. *Instead, the characters appear as thin lines. Test your printer by sending it the same Courier text, once with the font set to Resident and again with it set to Vector. If the resident Courier does not print correctly, leave Courier set to Vector.*

Download

The Download option makes your PostScript printer process non-resident fonts as if they were resident. When PostScript output is started, the font information is sent to the printer (*downloaded*) with each picture and is kept in the printer's memory.

The *entire* font is downloaded—all characters, not just the characters you are using in your picture. For that reason, downloading is most effective for pictures that contain a lot of text in a few non-resident fonts.

In some cases, downloading can increase printing time:

- ❑ if the picture contains only a few characters in each non-resident font;

  In this case, downloading the fonts could take longer than actually printing the picture.

- ❑ if the printer does not have enough memory for both the downloaded fonts and the picture.

Vector

Vector is the default attribute for all fonts. Characters are sent to the printer as lines and curves.

If you have a non-PostScript printer, all text is treated as Vector, regardless of the attributes set in this dialog.

If you have a PostScript printer, leave the attribute for non-resident fonts as Vector if:

- ❑ the picture contains only a few text characters;
- ❑ the picture contains a lot of text, but it is in several different fonts and only a few characters in each font are used.

Remove Typeface

This button removes the selected font from the typeface list.

The font file (the file with the .AF4 extension) is not deleted from your disk, so you can always restore the name to the list at a later time.

You can remove typefaces if memory or disk space are becoming limited or if you simply want a shorter list of fonts in the Create Text Item dialog.

Add Typeface

This button displays the Item Selector so you can add a font name to the list.

There are two things to remember when adding fonts:

- All fonts must be in the **Key *Draw! Plus*** .AF4 format.
- Fonts must all be in your designated font directory. If you try to add a font from another directory, **Key *Draw! Plus*** displays an alert asking if you want the font file copied to your fonts directory. Click on OK if you want to add the font to the list.

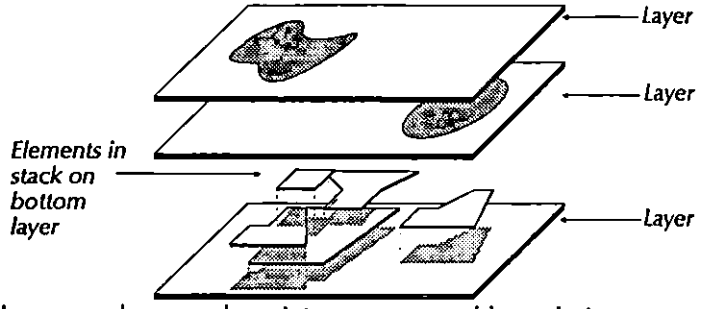
Tools Manager Command

The **Tools Manager** command displays the Tools Manager so you can create your own custom toolbox.

The Tools Manager is described fully in Chapter 13.

Layers

Pictures can be created in *layers*, as if they were made up of transparent sheets laid on top of each other.



Layers make complex pictures manageable and give you an extra measure of protection.

- You control which layers are visible. The entire picture does not always have to be on the screen.
- The work you do in one layer—adding or deleting elements, changing colors, drawing new elements—has no effect on elements in other layers.

The elements in each layer exist in a *stack*. See the discussion of stacks and layers, "Selecting Overlapping Elements," in Chapter 2.

Limits on Layers

There is no limit on the number of layers you can create—except for the limitations imposed by your computer's memory and available disk space.

Layer Tool and Layer Manager

The Layer tool (described in Chapter 2) has two functions:

- activating layers
- adding new layers

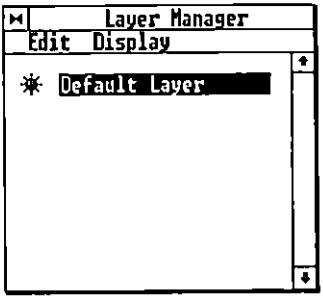
The Layer Manager can also be used to activate or add layers, but it has these additional functions:

- changing layer order
- modifying layers
- removing layers
- deciding which layers will be displayed

Displaying the Layer Manager

To display the Layer Manager:

Choose the **Layer Manager** command from the Options Menu.



The Layer Manager window contains these parts:

To move the Layer Manager:

> The Layer Manager initially appears in the middle of the workspace. Moving the Layer Manager gives you a relatively unobstructed view of the drawing surface.

Drag the Layer Manager's title bar.

Each time you choose the **Layer Manager** command in the current work session, the Layer Manager appears where you last left it. At the beginning of your next **Key *Draw! Plus*** work session, the Layer Manager will again appear in its default location, the middle of the workspace.

To remove the Layer Manager from the workspace:

Click on the Layer Manager's close box or choose the **Close** command from the Layer Manager's File menu.

Layer List

The layer list identifies the layers in the current picture.

The layers are listed in order from bottom to top—the first layer in the list is the bottom layer; the last layer in the list is the top layer.

If your picture has more layers than fit the list, use the arrows, scroll bar, or slider to scroll the list.

Activating Layers

To work in a given layer of your picture, you must first make that layer the *active* layer. The active layer is identified in the main title bar above the workspace.

- If you activate a layer with the Layer tool, **Key *Draw! Plus*** automatically updates the screen.
- If you activate a layer with the Layer Manager, the screen update depends on the state of the **Auto Redraw** and **Redraw** commands.

To activate a layer with the Layer tool:

> You can also activate layers with the **[PgUp]** and **[PgDn]** keys.

1. Click on the Layer tool to display the pop-up list of the names of the layers in the current file.
2. Click on the name of the layer you want to activate.

To activate a layer with the Layer Manager:

1. Open the Layer Manager by choosing the **Layer Manager** command from the Options Menu.
2. Click on the layer's name in the layer list.

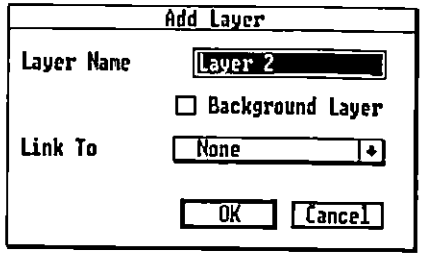
You cannot work on your picture while the Layer Manager is open. For that reason, to activate a layer, use the Layer tool. However, if you want to activate a layer *and* do something else related to layers—for example, add a layer and modify an existing layer—use the Layer Manager.

Adding Layers

When you start a new picture in **Key *Draw! Plus***, there is one layer, called the *default layer*. You can add new layers with the Layer tool or the Layer Manager.

To add a layer with the Layer tool:

1. Click on the Layer tool to display the layer pop-up.



2. Click on the **New Layer** option. **Key *Draw! Plus*** displays the Add Layer dialog.

   A new layer is automatically the active layer.

3. Enter a name for the new layer into the dialog.
   The other options in the dialog—Background Layer and Link To—are for creating slides.
4. Exit the Add Layer dialog.

To add a layer with the Layer Manager:

1. Display the Options menu and choose the **Layer Manager** command.
2. Display the Layer Manager's Edit menu and choose the **Add Layer** command. The Add Layer dialog appears on top of the Layer Window.
3. Enter a name for the new layer into the dialog.
   The other options in the dialog are for creating slides. See page 10-6.
4. Exit the Add Layer dialog.
5. When you have added all the layers you want, click on the Layer Manager's close box or choose the **Close** command from the Edit menu.

NOTE: Merging a file into your picture also adds at least one new layer. See the description of the **Merge File** *command in chapter 3.*

Changing Layer Order

Using the Layer Manager, you can change the order of the layers on the drawing surface.

To change layer order:

1. Open the Layer Manager.
2. In the layer list, drag the layer's name to the position you want.
3. Close the Layer Manager.

Copying and Moving Elements Between Layers

Elements can be copied or moved from one layer to other layers.

To *copy* elements from one layer to another:

1. Use the Layer tool to activate the layer containing the elements you want to copy.

2. Select the elements.
3. Display the Edit menu and choose the **Copy** command.
4. Use the Layer tool to activate the layer to which you want to copy the elements.
5. Display the Edit menu and choose the **Paste** command.

To *move* elements from one layer to another:

1. Use the Layer tool to activate the layer containing the elements you want to move.
2. Select the elements.
3. Display the Edit menu and choose the **Cut** command.
4. Use the Layer tool to activate the layer on which you want to place the elements.
5. Display the Edit menu and choose the **Paste** command.

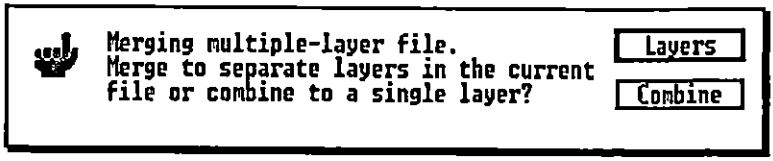
You can use these steps to copy or move single elements, multiply selected or grouped elements, or even the entire contents of a layer.

Combining Elements into a Single Layer

You may find that you want to convert a multi-layer picture to a single-layer picture—in other words, to combine all the elements from all the layers into a single layer. You can do it, using the **Merge File** command from the File menu.

To combine elements into a single layer:

1. Save your picture. (This is a good practice to observe before any such changes.)
2. Display the File menu and choose the **New** command to clear the drawing surface.
3. Display the File menu and choose the **Merge File** command. **Key *Draw! Plus*** displays the Item Selector.
4. Select the file you want to combine to a single layer.
5. **Key *Draw! Plus*** displays this alert:



6. Click on the **Combine** button.
   The file is merged into a single layer in the current picture.
7. Save the new picture.

8. The new picture has two layers, a default layer with nothing in it, and the new layer containing the picture you just merged. The new layer's name is the name of the file you merged. If you want the new picture to have only one layer, use the Layer Manager to remove the default layer.

Slides

Slides are pairs of layers—a *foreground* and a *background*—that are displayed together. You can combine many slides to create an entire slide presentation in a
single file.

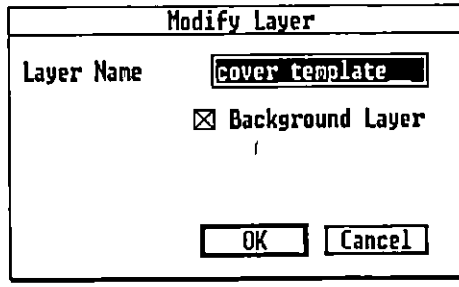
You can display slides on the screen with the Layer Manager's **Slides** command, export slides to files, or produce PostScript output of your slides. See chapter 3.

Creating Slides

A slide is created when one layer is designated a background layer and another layer—the foreground layer—is *linked* to it. You can create slides when you add new layers or with existing layers.

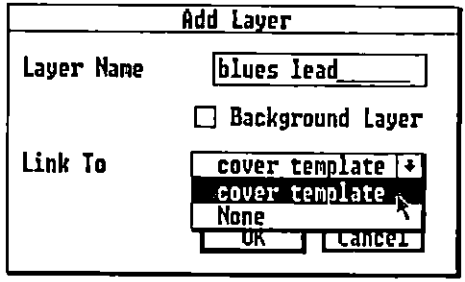
To designate a layer as a background layer:

- If you are adding the layer, click on the Background Layer check box in the Add Layer dialog.
- If the layer already exists:
  - ➢ Open the Layer Manager.
  - ➢ Select the layer's name in the layer list.
  - ➢ Display the Edit menu and choose the **Modify Layer** command.
  - ➢ In the Modify Layer dialog, click on the Background Layer check box.



To link a layer to a background:

- If you are adding the layer, display the Link To menu in the Add Layer dialog. Choose the name of the layer you want as the background of the new layer.



- If the layer already exists:
  - ➢ Open the Layer Manager.
  - ➢ Select the layer's name in the layer list.
  - ➢ Display Edit menu and choose the **Modify Layer** command.
  - ➢ In the Modify Layer dialog, display the Link To menu. Choose the name of the layer you want as background to this layer.

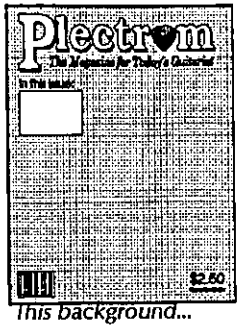
NOTE: You can link more than one layer to a single background. A typical background layer contains all elements that are found in every slide, and the foreground layers contain the elements that are unique to each individual slide. See the example on the next page.

Printing Slides

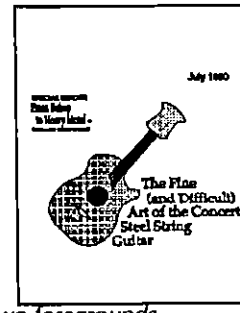
To print slides, you have these options:

- If you have a PostScript printer, you can print the slides directly to it. Choose the **PostScript** command (chapter 3) and set the Separation Options to "Slides."
- If you do not have a PostScript printer, you can export the slides to files that can be printed. Choose the **Export** command (chapter 3) and set the Export Mode to "Slides." Then choose either of these File Type options:
  - ➢ Multiple .GEM Files

    This option creates a separate file for each slide. You can print these files, and you can open them in **Key *Draw! Plus*** or include them in files created with programs that use .GEM files, like Presentation Team and Xerox Ventura Publisher. When exporting to multiple .GEM files, the filename you specify cannot be more than five characters long. **Key *Draw! Plus*** uses the remaining three characters for automatic

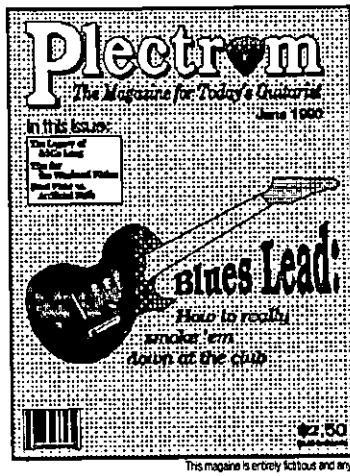


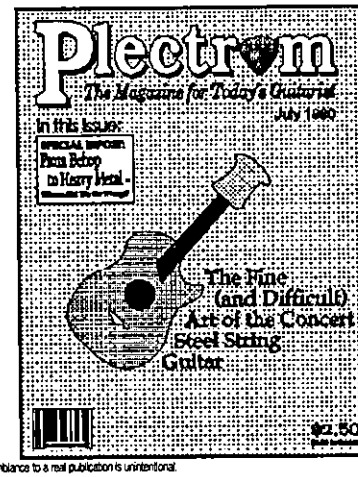
This background...



...and these two foregrounds

...combine as slides to created these two magaine covers.




Plectrum
The Magazine for Today's Guitarist
In this issue:
The Fine (and Difficult) Art of the Concert Steel String Guitar
$2.50

This magaine is entirely fictious and any resemblance to a real publication is unintentional.

numbering of the files—for example, SLIDE000.GEM, SLIDE001.GEM, and SLIDE002.GEM.

➢ Multiple-Page .GMP File
This option creates a single file with a separate page for each slide. Using the Output program, you can print your slides from this file. You cannot open a .GMP file in **Key *Draw! Plus*** or use it with other programs.

CAUTION: The disk space occupied by multiple .GEM files is usually more than the space occupied by a single .GMP file.

Slide Shows on the Screen

Using **Key *Draw! Plus***, you can create "slide shows" for display on the screen. These can be especially effective on some of the large-screen high-resolution monitors available today.

To create a slide show:

1. Create the slides in **Key *Draw! Plus***.
2. Export the slides to a .GMP file or to .GEM files.
   In most instances, it is easiest to export the slides to a .GMP file. You need only a single file in your output list, and the Screen Preferences apply to the pages of the .GMP file just as they do to the separate .GEM files.
3. Start the Output program (**To Output** command).
4. In Output, add the .GMP file or .GEM files to the output list, set your Screen Preferences, and start output to the screen.

If you are creating slides exclusively for screen output, make sure they conform to the screen's orientation (Portrait or Landscape). For most standard monitors, use Landscape orientation; for vertically oriented full-page monitors, use Portrait orientation.

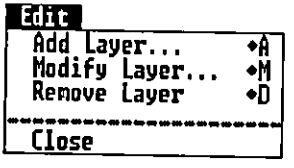
Layer Manager Command Reference

The next two sections describe the commands in the Layer Manager's two menus.

Note that the Layer Manager menus list keyboard command equivalents. When the Layer Manager is open, these keyboard commands are activated, and the keyboard commands in **Key *Draw! Plus***'s main menus are inactive.

Edit Menu

This section describes the commands in the Layer Manager's Edit menu. Note the keyboard command equivalents for the first three commands.



Add Layer Command

The **Add Layer** command displays the Add Layer dialog. Use the dialog to add a new layer to your picture.

Layer Name	Each layer must have a name. Enter a name in this field or accept the name supplied.
Background Layer	Click on this check box if you want the new layer to be a background layer for slides. Slides are described on page 10-6.
Link To	This option makes the layer a slide foreground. Select a name from this pop-up menu to link the new layer to an existing background layer. You cannot link a foreground until you have created at least one background layer.

Modify Layer Command

> You can also display the Modify Layer dialog by double-clicking on the layer's name in the list.

The **Modify Layer** command displays the Modify Layer dialog so you can change the name of the current (active) layer or change its slide attributes. The Modify Layer dialog is identical to the Add Layer dialog.

You can use the **Modify Layer** command to give your layers unique names when you merge a file into your picture, resulting in layers with duplicate names. See the description of the **Merge File** command in chapter 3.

Remove Layer Command

The **Remove Layer** command removes the current layer from your picture. If the layer contains elements, **Key *Draw! Plus*** displays an alert warning you that the elements will also be deleted from the picture.

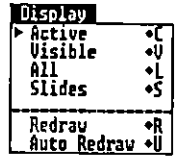
Removed layers are not placed in your computer's memory or on the Clipboard. For that reason, once a layer is removed, it cannot be restored except by being reconstructed from scratch.

Close Command

The **Close** command closes the Layer Manager. You can also close the Layer Manager by clicking on the close box at the left end of the title bar.

Display Menu

This section describes the commands in the Layer Manager's Display menu.



The menu's first four commands give you control over how layers are displayed on the screen; your current choice is indicated with a marker. These display choices remain in effect after you have closed the Layer Manager. (The screen display commands have no effect on printed output other than PostScript EPSF. Printing of layers is controlled by the **Export** and **PostScript** commands described in Chapter 3.)

The menu's last two commands control the redraw of layers while the Layer Manager is open.

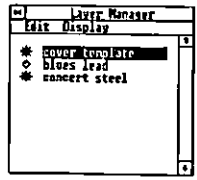
Display Status

The current display status of the Layer Manager (Active, Visible, All, or Slides) is saved with the file. For example, a file that is saved in Slides mode will automatically be in Slides mode the next time you open it.

Display Markers: Circles and Light Bulbs

To the left of each layer name is a display marker, either a circle or a "light bulb." These markers indicate whether the layer will be displayed in the current display mode.

- The light bulb marker indicates that the layer will be displayed. The active layer is marked with a light bulb in all display modes.
- The empty circle indicates that the layer will not be displayed.



If **Auto Redraw** in the Layer Manager is turned off, changes in the display status of layers will not be reflected until you choose the **Redraw** command or until you close the Layer Manager. **Auto Redraw** is described later in this chapter.

All Command

The **All** command displays all the layers in the picture.

Active Command

The **Active** command displays only the active layer. Regardless of the number of layers in your picture, you see only one layer at a time.

Visible Command

The **Visible** command switches the Layer Manager into a special mode in which the only layers that are displayed are the active layer and any other layers that are specifically designated as *Visible*. This option makes it possible for you to:

- display a selection of the layers in your picture;
- view the layers in your picture as a series of overlays;
- print a selection of layers, using the Visible option in the **Export** command.

To set a layer's visibility:

1. Open the Layer Manager.
2. (Optional) For greater convenience, turn off **Auto Redraw** in the Display menu, if it is on. The **Auto Redraw** command is described later in this chapter.

   > You can only set or change the visibility of layers in Visible mode.

3. Choose the **Visible** command from the Display menu and look at the display markers next to each layer name.
4. Click on the display marker for each layer whose visibility status you want to change.
5. To set the visibility status of the current active layer, you must first de-activate it by clicking on one of the other names in the layer list. This gives you a clear view of the display marker.

Displaying Selected Layers

You can use the Visible setting to display a selection of the layers in your picture. This can be useful when you want to see how various layers look in combination with each other.

To display selected layers:

1. Open the Layer Manager.
2. Switch the Layer Manager to **Visible** mode.

3. Turn on the display markers for the layers you want visible. Turn off the display markers for any layers you do not want visible.

By moving the Layer Manager to one side of the screen, you can continue to view layers without closing the Layer Manager each time you change a layer's display status.

Using Layers as Overlays

Using the **Visible** command, you can "build up" your picture layer by layer, as if you were putting down a series of overlays. You can start by looking at the bottom layer, then add a layer, another layer, and so on.

To view layers as overlays:

1. Open the Layer Manager.
2. Turn on Auto Redraw (if it is not already on).
3. This process can only be done while the Layer Manager is open, so move it off to one side of the screen so that it blocks your view of the workspace as little as possible. Make sure the layer list is still accessible.
4. Choose **Visible** from the Display menu.
5. Activate the bottom layer (the first name in the list). The bottom layer will remain the active layer throughout all these steps.
6. Start by making sure that the display markers are turned off for other layers. At first you should see only the bottom layer.
7. Make the second layer Visible by clicking on its display marker. You now see the first two layers.
8. Make the third layer Visible. You now see the first three layers together.
9. Continue making layers Visible, one by one, until you see the complete picture.

Slides Command

The **Slides** command displays *slides*. When the **Slides** option is marked, activating layers (either with the Layer tool or from within the Layer Manager) has this effect:

- If the layer you activate is the foreground of a slide, the entire slide—foreground and background—is displayed.
- If the layer you activate is not the foreground of a slide, the layer is displayed by itself. In this case, the **Slides** command has the same effect as the **Active** command.

Auto Redraw Command

The **Auto Redraw** command is a toggle. Auto Redraw is either on (as indicated by a marker in the menu) or off.

Auto Redraw determines whether **Key *Draw! Plus*** redraws (updates) the screen when you make changes in the Layer Manager.

- When **Auto Redraw** is on, **Key *Draw! Plus*** redraws the screen every time you do something that changes what is displayed on the screen—like activating a layer or changing layer order.
- When **Auto Redraw** is off, the screen is redrawn only when you choose the **Redraw** command. Turning off **Auto Redraw** is useful when you are doing something that involves several steps, and you do not want the screen to redraw after each step.

The state of **Auto Redraw** has no effect when the Layer Manager is closed; the screen is always redrawn when changes warrant it.

Redraw Command

The **Redraw** command redraws the screen when **Auto Redraw** is turned off.

The **Redraw** command is only available when **Auto Redraw** is turned off and only when you have done something that would change the way layers are displayed on the screen.

Image Tracing

Tracing is a technique in which you use the Trace tool or Quill (or other tools) to create **Key *Draw! Plus*** pictures from *bit-image* files, typically created by scanning programs and paint programs.

Image Files and Vector Files

Image files are made up of individual dots called *pixels*. Some image files can be very detailed—scanned images of photographs, for example—but these image files can be extremely large, requiring a lot of memory to load and a lot of disk space to store.

Key *Draw! Plus*'s files are called *vector* (or "object") files. Elements are stored as complete objects, rather than as a pattern of dots. An element drawn in **Key *Draw! Plus*** can be moved or rotated, can have its size or color changed, and other elements are not affected.

Tracing creates a vector "replica" of the bit-image original, making available all of **Key *Draw! Plus***'s editing capabilities and enabling you to take advantage of the full resolution of your output device.

Autotracing and Hand Tracing

There are two ways you can trace an image:

- interactive autotracing
- hand tracing

Interactive Autotracing

> Autotracing and hand tracing are not mutually exclusive. You might autotrace one part of an image and trace another part of the same image by hand.

Using the Trace tool, you can make **Key *Draw! Plus*** trace an image, setting anchor points and drawing curves and lines automatically. Autotracing is interactive because you can stop the autotrace at any time and then:

- change the tracing precision;
- retrace the entire image;
- use different tracing precisions for different parts of the same tracing line.

Hand Tracing

You can trace an image by hand, using the Quill, Sketch tool, or other drawing tools to draw all the lines and curves. When tracing with the Quill, you choose where to place anchor points and where to drag tangent lines.

Loading Images

> The image does not become part of your **Key *Draw! Plus*** file. It is simply there as a guide for tracing.

Before you can trace an image, you must *load* it, to make it visible on the screen. The image is "under" the drawing surface, as if you had placed a picture under a piece of tracing paper.

Images can be loaded for tracing in any of three formats:

- IMG (file extension .IMG)
- PCX (file extension .PCX)
- TIFF (file extension .TIF)

Images in other formats can be converted to IMG, PCX, or TIFF with several conversion utilities.

To load an image:

> If an image is already loaded, it is replaced. No alert is displayed.

Choose the **Load Image** command from the Image menu. **Key *Draw! Plus*** displays the Item Selector so you can select the image file.

Selecting files with the Item Selector is described in Chapter 1.

Image Frame

When an image is loaded into **Key *Draw! Plus***, it is contained within an invisible rectangle called the *image frame*.

Image frame

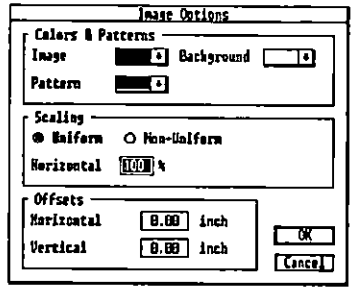
Image Options

After loading an image, you can set these *image options*:

- image color and fill pattern
- background color
- image scaling
- position of the image on the drawing surface

To set image options:

Choose the **Image Options** command from the Image menu. **Key *Draw! Plus*** displays the Image Options dialog.



Color & Patterns

These options set the color and pattern of the image and the color of the image background.

Image This menu contains a list of colors that can be assigned to the image. The initial default color is black.

The set of colors that appears in the menu is always the same; it is independent of the currently loaded color file.

Pattern This menu contains a list of patterns that can be assigned to the image. The initial default is a solid pattern.

The patterns are for your convenience, as it is sometimes hard to see the line as it traces around a solid pattern. The patterns do not affect tracing precision in any way.

Background The *background* is the part of the area contained within the image frame that has no image pixels. In the illustration on page 11-2, the background is the shaded area.

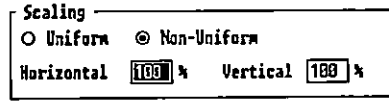
The Background menu contains the same colors as the Image menu. The initial default is a white background.

Scaling

To make the image the most convenient size for tracing, you can scale it larger or smaller.

Uniform In Uniform scaling, a single percentage (ranging from 1% to 999%) is applied to the image's width and height. The image cannot be distorted.

Non-Uniform In Non-Uniform scaling, two fields are available: Horizontal and Vertical. The image's width and height can be scaled separately, and the image can be distorted.



Offsets

By default, an image appears at the upper left corner of the drawing surface. Using the Offsets fields, you can move the image to a specific location on the drawing surface. The unit of measure in both fields is taken from the current setting in the Page Layout dialog (chapter 3).

Horizontal This setting moves the image the specified distance from the left edge of the drawing surface.

Vertical This setting moves the image the specified distance down from the top edge of the drawing surface.

Saving Image Options

The current settings in the Image Options dialog are saved as defaults when you choose the **Save Preferences** command. See chapter 9 .

> For accurate tracing, Scaling and Offsets values must be exactly the same each time you load the image.

If you do not want to save the options as defaults, but still want the information available the next time you open the file, use the Text tool to enter the options in an open part of the drawing surface. (Text with hollow fill draws most quickly.) Save this text with the picture, use the values for reference each time you load the image, and delete the text when you no longer need the information.

Autotracing

Autotracing is a fast and easy way of creating **Key *Draw! Plus*** elements from scanned images or other image files.

Typical steps for autotracing an image are:

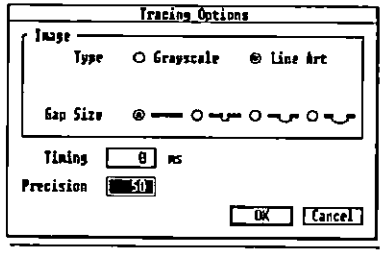
1. Load the image.
2. Set image options.
3. Set the Tracing Options.
4. Select the Trace tool and begin tracing.
5. If necessary, use the Plane tool to fine-tune the final picture.

Tracing Options

Before you begin autotracing, set the options that determine how **Key *Draw! Plus*** will trace the image:

- image type
- gray levels (grayscale images only)
- gap size
- timing
- precision
- contrast

To set tracing options, double-click on the Trace tool. **Key *Draw! Plus*** displays the Tracing Options dialog:



Image

This setting describes the kind of image you are tracing.

Grayscale

> A grayscale image should not be confused with a halftone image like a photograph.

The image consists of areas of even shades of gray.

When you select Grayscale, two additional options—Gray Levels and Contrast—become available.

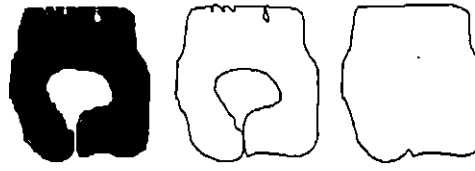
Line Art The image contains only solid areas of black and white.

Gray Levels This menu is available only when Grayscale has been selected for the Image Type. See "Tracing Grayscale Images" in this chapter.

Gap Size The Gap Size setting determines how closely autotrace follows any irregularities in the outline of the image. The setting ranges from zero pixels to three pixels.

> The Precision setting also affects how closely the image is traced.

Scanned images often have little "pits" and gaps in what should be a solid, smooth line. A high gap size causes autotrace to jump over these pits and gaps, resulting in a smoother outline, while a low gap size causes autotrace to follow these irregularities more closely.



Original image

When your image contains blocks of pixels that are close to each other, setting a low gap size can prevent the trace line from jumping from one block of pixels to the other.

Timing

An autotracing is a series of connected lines or curve segments. The Timing setting (measured in milliseconds)
determines how long autotrace waits before starting the next curve segment.

In its default timing (0 ms), autotrace is continuous. Increasing the timing increases the amount of time required to trace the image, but it also allows you to stop the autotrace precisely where you want to stop it.

Precision

This percentage determines how closely autotrace follows the outline of the image. A Precision of 50% or 60% is often sufficient.

A lower percentage results in smoother curves with fewer anchor points. The tracing follows the general outline of the image.

A higher percentage produces a more exact tracing of the image, but also results in more anchor points. High Precision tracing (especially with Gap Size set to zero) often follows all irregularities of the edges of scanned images, producing an outline that is needlessy "fussy."

Contrast

This option is available only when Grayscale has been selected for the Image Type. See "Gray Levels".

Autotrace Direction

The line drawn by the Trace tool always leaves the image to its *right*.

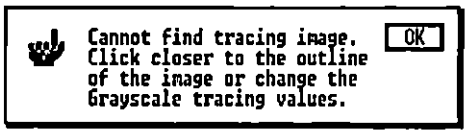
- If you are tracing the outside of the image, the line moves clockwise.
- If you are tracing inside an image, the tracing line moves counterclockwise.

Autotracing Techniques

This section describes how you trace entirely around the outside or inside of an image. The next section describes how you trace a specified part of an image.

To autotrace, set tracing options and then:

1. Select the Trace tool in the toolbox.
2. Start the autotrace by clicking next to the image.
   If you click too far from the image, **Key *Draw! Plus*** displays the "Cannot find tracing image" alert.



   If you click outside the image frame, **Key *Draw! Plus*** displays this alert:

3. When the image is traced, **Key *Draw! Plus*** displays the Preview Curve dialog.
   If the autotrace reaches the point limit before finishing the

tracing, **Key *Draw! Plus*** displays the alert shown below and then the Preview Curve dialog.

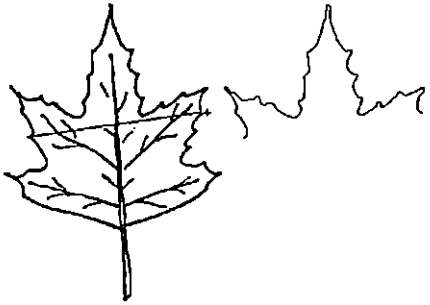
The outline of this image is too long or too complex to trace in a single step. Try tracing the image in segments or at a lower precision.
OK

Trace Segments

A *trace segment* is a partial tracing of the image, where you set both the starting and finishing points.

To set a trace segment:

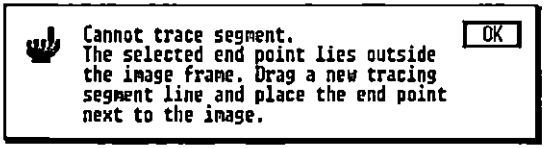
1. Select the Trace tool.
2. Drag a line from the trace segment's starting point to its end point. Place the end point next to the image.



➢ If you place the end point inside the image frame but not next to the image, the image will be traced completely or until the point limit is reached.

➢ If you place the end point outside the image frame, this alert is displayed:

3. When the segment is finished, the Preview Curve dialog is displayed.


Cannot trace segment.
The selected end point lies outside the image frame. Drag a new tracing segment line and place the end point next to the image.
OK

Stopping Autotrace

You can stop the Trace tool at any time by pressing the spacebar. **Key *Draw! Plus*** then displays the Preview Curve dialog.

Preview Curve Dialog

Key *Draw! Plus* displays the Preview Curve dialog when:

- the image is fully traced;
- the point limit is reached;
- you stop the tracing.

The dialog has three exit buttons. The second and third are always OK and Cancel. The first varies according to the circumstances in which the dialog was displayed.

- If the dialog was displayed because the image has been completely traced or because the point limit was reached, the first exit button says "Retrace."
  If you click on the Retrace button, the image is retraced from the beginning.
- If the dialog was displayed because you stopped the autotrace by pressing the spacebar, the first exit button says "Go On."
  If you click on the Go On button, the tracing continues from the point at which it left off.

The Preview Curve dialog gives you these options:

- You can accept the tracing.
- You can change precision and retrace.
- You can trace part of the image at a different precision.
- You can delete tracing points and then continue.
- You can cancel the tracing.

Accepting the Tracing

If the tracing is satisfactory as it is, click on OK or press ↵.

Changing Precision and Retracing

To change the tracing precision, click on the dialog's arrow buttons: left-arrow to lower the precision or right-arrow to raise the precision. If you hold the mouse button down over the arrow, the setting changes continuously until it reaches zero or 100%.
Click on the Retrace button to retrace the image.
If the Preview Curve dialog was displayed because the tracing reached the point limit, you can use the Preview Curve dialog to lower the precision and then retrace.

Tracing Part of the Image at a Different Precision

By stopping the tracing before it is finished, you can trace a continuous line at varying levels of precision. For example, you might start tracing

at 80%, change to 40% for a region where you want to follow only the general outline of the image, and then conclude at 100%.

- To stop the tracing and display the Preview Curve dialog, press the spacebar.
- To change the precision, click on the left-arrow or right-arrow buttons as described above.
- To continue the tracing, click on the Preview Curve dialog's Go On button.

Deleting Tracing Points

When you stop a tracing or when the tracing is complete, you can delete anchor points by pressing the Backspace key or the left-arrow key on the numeric keypad, "stepping" the tracing backwards point by point.

> Pressing right-arrow or the **Tab** advances the tracing one anchor point at a time.

Canceling the Tracing

To abandon a tracing, click on the Preview Curve dialog's Cancel button. The current trace line is deleted in its entirety, but the Trace tool remains selected.

Line Widths—a Hint

Before you start tracing, you might want to set the default line width to **No Outline**, especially if:

- you want a solid color with no contrasting outline;
- the thickness of the outline might distort or obscure the shape of the traced element.

Tracing Grayscale Images

Grayscale images use *dithering*, patterns of white and black pixels, to create shades of gray. The Grayscale option in the Tracing Options dialog makes it possible for you to trace images composed of shades of gray.

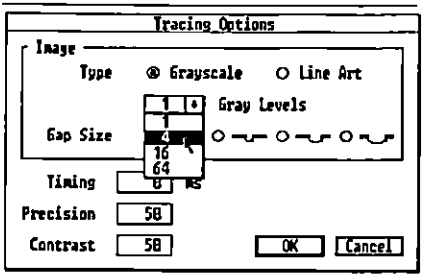
Because autotracing recognizes only black and white, it must have some way of determining which of the grays to treat as black and which to treat as white—in other words, where the black-white "threshhold" is.

When you click on the Grayscale radio button, two additional options become available:

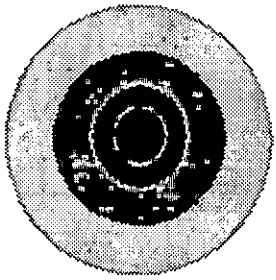
- Gray Levels
- Contrast

Gray Levels

The Gray Levels menu lists a choice of 1, 4, 16, and 64 gray levels. If you know how your image was dithered or how many gray levels were used in creating a TIFF file, choose that value from the menu.



Contrast



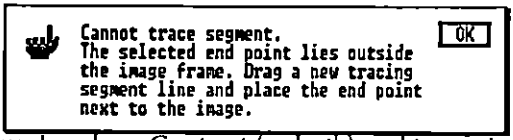
The Contrast setting determines which gray values are treated as black and which are treated as white—in other words, where the tracing line will be.

Generally, the lower the contrast setting, the lighter the gray value that will be traced.

In the illustration at the left, the outer circle—the lightest gray value—is traced at the lowest contrast setting.

Tips on Tracing Grayscale Images

If you do not know how your image was dithered or how many gray levels there are in your TIFF file, experiment with combinations of Gray Levels and Contrast settings until you get the tracing you want.
If the combination of settings is such that the grayscale area is seen by autotrace as white, this alert is displayed:


Cannot trace segment.
The selected end point lies outside the image frame. Drag a new tracing segment line and place the end point next to the image.
OK

Adjust the Gray Levels or Contrast (or both) and try again. You may find that you have traced a single pixel. In that case, adjust the Gray Levels or Contrast (or both) and try again. Finally, unless the grayscale image you are tracing is very complex, consider the possibility of tracing it by hand, as described next. Hand tracing gives you complete control over the traced outline, and it avoids any need to set Gray Levels or Contrast.

Hand Tracing

> Before tracing an image, load the image and set image options.

Hand tracing gives you the greatest control over the appearance of the tracing, but it can be time-consuming, because you must draw each curve yourself.

In most cases, the Quill is the appropriate tool for tracing. You can use other drawing tools—for example, the Sketch tool, Rectangle tool, Circle tool, or Text tool—for parts of the image that are not suited to the Quill.

To hand trace an image:

> If the **Snap to Grid** command has no marker, the snap is already off.

1. Turn off the snap by displaying the View menu and choosing the **Snap to Grid** command. It is almost always easier to trace an image with the snap turned off.
2. Use the Magnifier to zoom in on the part of the image where you want to start tracing.
3. Select a tool from the toolbox.
4. Begin tracing.

Tips for Hand Tracing

When tracing an image by hand, keep these tips in mind:

- Use as few anchor points as possible. For example, use compound curves wherever you can. (This skill will come with practice.)
  Fewer anchor points mean that you are less likely to encounter the 255-point limit and also that the element will be easier to touch up when you're finished.
- As a rule, it is easier to trace with the fill color turned off (**Colors** command or the **[F10]** keystroke).
- From time to time, check your tracing by hiding the image. Choose the **Image** command from the View menu or press **[F9]**. To re-display the image, choose the **Image** command or press **[F9]** again.
- Be as accurate as you can, but remember that you can always go back and "fine tune" the curves afterwards.

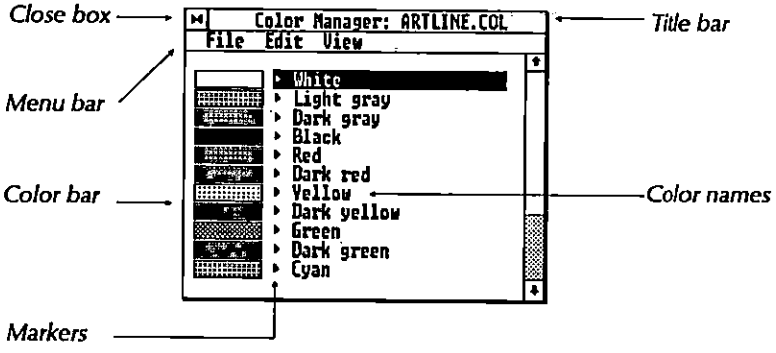
Color Manager

This chapter describes how you work with **Key *Draw! Plus***'s Color Manager. Using the Color Manager, you can:

- load a color file, including PANTONE colors;
- create or modify solid colors;
- create or modify fountains;
- add colors to a color file;
- create a new color file.

To display the Color Manager:

You can move the Color Manager by dragging its title bar.



Choose the **Color Manager** command from the Options Menu.

Colors and Fountains

Key *Draw! Plus*'s colors are available in two forms, as solid colors and as fountains.

Colors

Solid colors can be assigned to an element's interior or its outline. The colors currently available for use in your pictures are listed in:

- Fill Color tool
- Line Color tool
- Color Manager (in Colors mode)

Fountains

A *fountain* is a blending of one color into another. Fountains can only be assigned to an element's interior. The fountains currently available for use in your pictures are listed in:

- Fountain tool
- Color Manager (in Fills mode)

NOTE: A fountain is not the same thing as a blend (described in Chapter 8). A blend combines the colors and the shapes of two elements over a specified number of steps. A fountain is a color blend that can be assigned to a single element or many elements.

Color and Fountain Availability

Colors and fountains that appear in the color tools and in the Color Manager can be there for any of three reasons:

- They are *color file* colors and fountains—they are part of the currently loaded color file.
- They are *picture colors* (or fountains)—they are used in the picture on the drawing surface but are not part of the color file.
- They are *unaffiliated* colors or fountains—you have created them but have not yet used them or saved them into a color file.

Color Files

Color files have the extension .COL.

Color files contain combinations of solid colors and fountains that you can load and use repeatedly. Several color files are provided with **Key *Draw! Plus***, and you can create your own according to your needs.

When you load a color file, its solid colors are displayed in the Fill Color and Line Color tool palettes, and its fountains appear in the Fountain tool palette.

The name of the current color file is in the Color Manager's title bar.

The smallest possible color file is one that contains only black and white, but you can create color files with dozens of colors. The major limiting factors are disk space and the amount of time it takes to load a very large color file.

Colors and fountains that are part of the current color file are indicated in the Color Manager by a marker. (See the illustration on the next page.)

Picture Colors and Fountains

> Picture colors remain associated with the pictures in which they are used.

When you open a picture, any colors or fountains in the picture that are not in the current color file are automatically added to the colors that appear in the color tools and Color Manager.

Picture colors do not become a part of the color file unless you explicitly save them to the file. Adding colors to a color file is described later in this chapter.

Unaffiliated Colors and Fountains

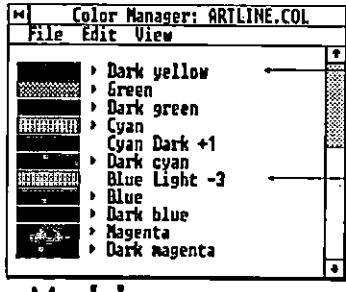
A color or fountain is "unaffiliated" when you have created it, but have not used it in the current picture or saved it to the current color file.

Presumably you intend to use or save the colors you create. If you do not, they will be lost when you:

- load another color file;
- open another picture;
- quit **Key *Draw! Plus***.

Markers: Picture Colors and Unaffiliated Colors

Picture colors and unaffiliated colors are identified in the Color Manager by the *absence* of a marker between the color bar and the color name. You cannot tell whether a color is part of the color file by looking in the color tools (Fill Color, Fountain, or Line Color).



This color is part of the current color file.

This color is not part of the current color file. It is either a picture color or is unaffiliated.

Color Models

A *color model* is a description of how the colors of the spectrum are created. In **Key *Draw! Plus*** you can create colors in any of three color models:

- CMY—Cyan/Magenta/Yellow
- RGB—Red/Green/Blue
- HSB—Hue/Saturation/Brightness

NOTE: The color models are not mutually exclusive. Color files (page 12-3) are all saved in the same format, so you can create colors using whichever model works best for you. There are no colors you can create with one model that you cannot create with the others. For a comparison of the 3 color models, see the table on page 12-5.

CMY Color Model

The CMY model corresponds to the standard color model used for four-color printing, CMYK (the K stands for black). The CMY colors are also known as *process* colors.

In this model, colors are created by combining percentages of three colors: cyan, magenta, and yellow.

0% of all three colors is white; 100% of all three colors is black.

Shades of gray are created by combining equal percentages of all three colors. The higher the percentage, the darker the gray.

See "Converting CMYK Colors to CMY" in this chapter.

RGB Color Model

> Most color computer monitors create colors by combining RGB values.

The RGB model creates colors by combining percentages of three colors: red, green, and blue.

Zero percent of all three colors is black; 100% of all three colors is white. Shades of gray are created by combining equal percentages of all three colors. The higher the percentage, the lighter the gray.

HSB Color Model

In the HSB color model, the actual color is determined by the value in the Hue field, while the other two fields determine the relative lightness or darkness of the color.

Hue

This field determines the color.

The color percentages are arranged in a circle, starting and ending with red. Thus, 0% Hue is red, and 100% Hue is also red. In between, green is 33.3% Hue, and blue is 66.6% Hue. For a more detailed accounting of the Hue percentages, see the Color Model Comparison Table on page 12-5. To see the effect of the Hue field, select the field, type 0 (zero) to set it to red, and then press the plus key on the numeric keypad. Each time you press the plus key, the percentage increases by 5%, and the color changes accordingly.

NOTE: These color percentages are based on Brightness and Saturation values of 100%. At less than 100% Brightness and Saturation, the colors are no longer "pure."

Brightness

The Brightness value determines how much black is mixed with the color set by the current Hue percentage.

At 100% Brightness, the color contains no black.

At 0% Brightness, the color is pure black. Changes to the Saturation and Hue values have no effect.

Saturation

The Saturation value determines how much white is mixed with the color set by the current Hue percentage.

At 100% Saturation, the color contains no white.

At 0% Saturation, the color is pure white. Changes to the Hue values have no effect. Note, however, that changes to the Brightness percentage *override* the Saturation value. See the next section.

Gray Levels in the HSB Model

In the HSB color model, grays are created when the Saturation is 0% and the Brightness value is varied. (When the Saturation is 0%, changes to the Hue percentage have no effect.)

The higher the Brightness percentage, the lighter the shade of gray. A Brightness of 100% is pure white, and a Brightness of 0% is solid black.

Comparison of Color Models

The following table compares how the three color models produce the same colors.

Color Model Comparison Table									
	CMY			RGB			HSB		
	C	M	Y	R	G	B	H	S	B
white	0	0	0	100	100	100	x	0	100
black	100	100	100	0	0	0	x	x	0
red	0	100	100	100	0	0	0/100	100	100
yellow	0	0	100	100	100	0	16.7	100	100
green	100	0	100	0	100	0	33.3	100	100
cyan	100	0	0	0	100	100	50	100	100
blue	100	100	0	0	0	100	66.6	100	100
magenta	0	100	0	100	0	100	83.2	100	100
	x = This setting has no effect.								

Converting CMYK Colors to CMY

If you have a CMYK color you want to duplicate in **Key *Draw! Plus***, you can convert it to the CMY model by adding the black value to each of the other colors. If this would produce a percentage greater than 100%, leave it at 100%.

	CMYK	CMY
cyan	20	40
magenta	85	100
yellow	20	40
black	20	

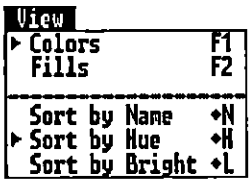
Creating and Modifying Colors

This section describes how you create new colors, modify existing colors, and add colors to color files.

Creating Colors

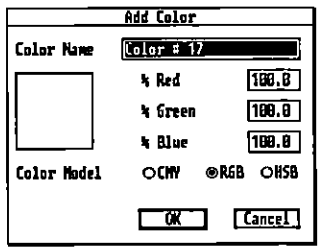
You can create a new color by choosing:

- the **New Color** option in either color tool;
- the **Add Color** command from the Color Manager's Edit menu.



The **Add Color** command is available only when the Color Manager is in Colors mode (as opposed to Fills mode). The Color Manager is in Colors mode when the **Colors** command in the View menu is marked.

In either case, **Key *Draw! Plus*** displays the Add Color dialog.



To create a new color:

1. Enter a name directly into the Color Name field, or accept the name supplied by **Key *Draw! Plus***.
2. Choose a color model.
3. Adjust the three percentage fields to create the color.

When you exit the Add Color dialog, the new color appears in the color tool palettes and in the color list in the Color Manager.

At this point, the new color is unaffiliated. You can make it a picture color by using it in the current picture, or you can add it to the current color file.

Modifying Colors

You can modify any color in the current color list.

To modify a color:

1. Open the Color Manager.
2. Display the Modify Color dialog by doing either of the following:
   - ➢ Double-click on the name of the color you want to modify.
   - ➢ Select the color you want to modify by clicking on its name. Then display the Color Manager's Edit menu and choose the **Modify** command.

Do not click on the color bar or the marker (if present) or you will change the status of the color.

The Modify Color dialog is identical to the Add Color dialog. You can use this dialog to:

- ❐ change the color's name;
- ❐ change the color model;
- ❐ modify the color by changing percent values.

Adding Colors to Color Files

Colors that do *not* have a marker between the color bar and the color name are not part of the color file.

To add a color to the current color file:

1. Click on the color bar of the color you want to add to the file. A marker will appear next to the color name.
2. When you have marked all the colors you want to add, save the color file by choosing the **Save** command from the Color Manager's File menu.

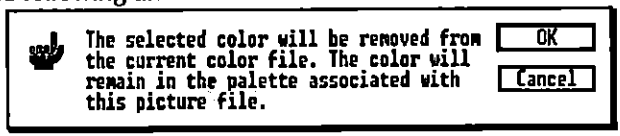
> Use the **Save As** command to save the color file under a new name.

CAUTION: If you create a color and do not use it in a picture or save it to a color file, it will be lost when you load another color file, open another picture, or quit **Key *Draw! Plus***.

Removing Colors from Color Files

You can remove a color from the current color file in two ways.

- You can delete the color using the **Delete** command in the Color Manager's Edit menu. A deleted color is no longer available for the current picture and, once you save the color file, is also removed from the color file.
- You can click on the color's color bar. Key ***Draw! Plus*** displays the following alert:


The selected color will be removed from the current color file. The color will remain in the palette associated with this picture file.
OK
Cancel

Colors removed in this manner are still available for the current picture but will no longer be part of the color file if you save the file. (As a precaution against losing a color you actually want, you can use the **Save As** command to save the color file under a new name.)

Creating and Modifying Fountains

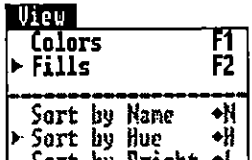
This section describes how you create new fountains, modify existing fountains, and include picture fountains into color files.

NOTE: In some places, notably in the color tools and in the Color Manager, Key ***Draw! Plus*** *refers to fountains as fills.*

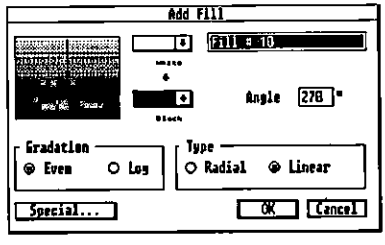
Creating Fountains

You can create a new fountain by choosing:

- the **New Fill** option in the Fountain tool;
- the **Add Fill** command from the Color Manager's Edit menu.



The **Add Fill** command is available only when the Color Manager is in Fills mode (as opposed to Colors mode). The Color Manager is in Fills mode when the **Fills** command in the View menu is marked. In either case, Key ***Draw! Plus*** displays the Add Fill dialog.



To create a new fountain:

1. Enter a name directly into the name field, or accept the name supplied by **Key *Draw! Plus***.
2. Choose the fountain's start and end colors from the two pop-up menus.
3. If you are creating a Linear fountain, set its angle by entering a value directly into the Angle field, dragging the pop-up slider, or dragging the head of the arrow in the preview window. The preview window shows the fountain you are creating.
4. Choose the fountain's Gradation and Type and, if you are sending your output to a PostScript device, set PostScript Fill Options. Gradation, Type, and PostScript Fill Options are described in the next sections.
5. Exit the Add Fill dialog.

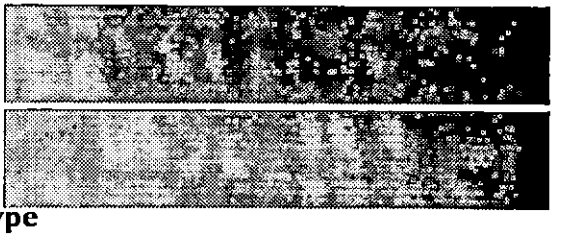
The new fountain will now appear in the Fountain Tool palette and in the fountain list in the Color Manager. At this point, the new fountain is unaffiliated. You can make it a picture fountain by using it in the current picture, or add it to the current color file.

Gradation

Gradation option determines how a start color blends to an end color.

Even The transition from start color to end color takes place in even steps over the span of the fountain.

Log The transition from start color to end color is logarithmic, beginning gradually, then changing rapidly toward the end of the fountain.

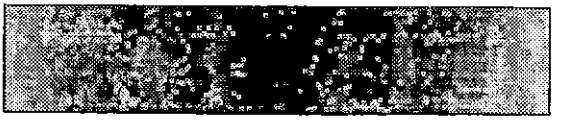


Even

Log

Type

Radial A Radial fountain is circular, and the start color blends inward to the end color. When you choose Radial, the Angle field is unavailable.



Radial

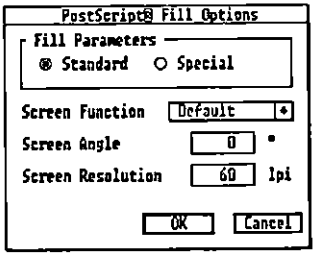
Linear In a Linear fountain, the colors blend as a series of bars of color. The Even and Log fountains above are both linear.

PostScript Fill Options

> Remember that there are two distinct dialogs: PostScript Options and PostScript Fill Options.

PostScript *Fill* Options give you greater control over how fountains are printed on a PostScript device. You can set separate Fill Options for each fountain you create, and they override the Halftone Screen Options settings in the PostScript Options dialog (see chapter 3).

If you create a fountain with Fill Options, use it in a picture, and print the picture with default Halftone Screen Options in the PostScript Options dialog, the fountain will print according to the Fill Options, and the rest of the picture will use the device's default settings.



Fill Parameters

Standard

Selected fountain has no special Fill Options; it will be printed using the Halftone Screen Options from the PostScript Options dialog.

Special

Selected fountain will be printed using the Screen Function, Screen Resolution, and Screen Angle options set in this dialog, regardless of settings in the PostScript Options dialog.

Screen Function

This menu allows you to choose the PostScript device's default screen function or select a specific screen function.

Default

The selected fountain will be printed using the PostScript device's default Screen Function (usually a form of dot screen).

Line

The selected fountain will be printed with a line screen. Color fountains are created by altering the thickness of parallel lines of the start and end colors. Grayscale fountains are created by altering the thickness of parallel black and white lines.

Round Dot

The selected fountain will be printed with a dot screen. Color fountains are created by altering the size of dots of the start and end colors. Grayscale fountains are created by altering the size of black and white dots.
The illustrations below show a fairly coarse (30 lpi) line screen and dot screen of the same fountain.

Screen Angle

Screen Angle refers to the physical angle at which screens are printed.

Screen Resolution

This setting controls the sharpness of fountains. Screen Resolution for both dot screens and line screens is measured in *lines per inch*.
Because the resolution of output devices is fixed—for example, 300 dpi for a typical laser printer and 2540 dpi for a phototypesetter—increasing the screen resolution significantly reduces the number of available gray levels. This equation shows how the two are related:

$$lpi = \frac{dpi}{\sqrt{grays}}$$

or, stated another way:

$$grays = \left(\frac{dpi}{lpi}\right)^2$$

For example, on a 300 dpi printer, a screen resolution of 50 lpi produces thirty-six gray levels; a screen resolution of 100 lpi produces only nine gray levels. The resolution has doubled, but the number of gray levels is one fourth what it was.

Modifying Fountains

You can modify any fountain listed in the Color Manager.

To modify a fountain:

1. Open the Color Manager.
2. Display the Modify Fill dialog by doing either of the following:

➢ Double-click on the name of the fountain you want to modify.

➢ Select the fountain you want to modify by clicking on its name. Then display the Color Manager's Edit menu and choose the **Modify** command.

Do not click on the color bar or the marker (if present) or you will change the status of the fountain. The Modify Color dialog is identical to the Add Color dialog. You can use this dialog to:

- change the fountain's name;
- change the start or end colors;
- change the fountain's angle;
- change the Gradation or Type;
- change the PostScript Fill Options.

Adding Fountains to Color Files

Fountains that do *not* have a marker between the color bar and the name are not part of the color file.

To add a fountain to the current color file:

1. Click on the color bar of the fountain you want to add to the file. A marker will appear next to the name.
   When you have marked all the fountains you want to add, save the color file by choosing the **Save** command from the Color Manager's File menu.

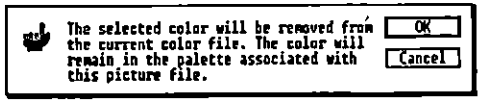
> Use the **Save As** command to save the color file under a new name.

CAUTION: If you create a fountain and do not use it in a picture or save it to a color file, it will be lost when you load another color file, open another picture, or quit **Key *Draw! Plus.***

Removing Fountains from Color Files

You can remove a fountain from the current color file in two ways.

- You can delete the fountain using the **Delete** command in the Color Manager's Edit menu. A deleted fountain is no longer available for the current picture and, once you save the color file, is also removed from the color file.
- You can click on the fountain's color bar. **Key *Draw! Plus*** displays the following alert:


The selected color will be removed from the current color file. The color will remain in the palette associated with this picture file.
OK
Cancel

Fountains removed in this manner are still available for the current picture but will no longer be part of the color file if you save the file. (As a precaution against losing a fountain you actually want, you can use the **Save As** command to save the color file under a new name.)

Creating Color Files

You can use the Color Manager to create entirely new color files of your own.

The following steps are suggested; you can make up your own variations as you gain experience.

To create a new color file:

1. To start with a "clean slate," save any work you have on the drawing surface and then choose the **New** command from the main File menu.
2. Open the Color Manager.
3. Choose the **Reset** command from the Color Manager's File menu.
   Key *Draw! Plus* displays an alert that all colors not used in the current picture will be deleted from the color list. Click on the alert's OK button or press ↵.
   The color list should now show only White and Black.
4. Create the colors and fountains for your new color file. Use the steps described earlier in this chapter under "Creating and Modifying Colors" and "Creating and Modifying Fountains".
5. As you create each color and fountain, add it to the eventual color file by clicking on the color bar next to its name. The marker between the color bar and the name indicates that the color is now part of the file.
6. Save the new color file using the **Save As** command in the Color Manager's File menu.

NOTE: If there is anything in the paste buffer, its color (or colors) will still appear in the color list after you choose the **Reset** *command. To remove those colors,* **Cut** *or* **Copy** *something black or white to the paste buffer, choose the* **New** *command again, and then* **Reset** *the Color Manager.*

PANTONE Colors

Key *Draw! Plus* supports PANTONE colors through several files—their filenames begin with PNT—which were copied to your hard disk when you ran Setup.

Pantone, Inc. provides a set of standardized colors that make possible consistent color matching and reproduction. Using PANTONE colors in **Key *Draw! Plus*** pictures assures you of predictable results with commercial printers and Pantone-approved computer output devices.

Many corporations use the PANTONE system to specify their corporate colors.

PANTONE Files

PANTONE files are designed for specific output devices, both screens and printers. Choosing the PANTONE file for the device most like the one you are using assures you of the best possible color reproduction on that device.

The PANTONE files support these devices:

- printers
- 150-line lithographic printers
- QMS® ColorScript™ 100—Models 10, 20, and 30
- Océ Graphics G5232 Color PostScript Printer
- NEC Colormate PostScript printer
- screen
- monitors using B22 Mitsubishi Phosphor Set rated at 9300°K

For files that will be printed on a phototypesetter, use the 150-line lithographic printer PANTONE file. The default screen angles for this file are:

Cyan	75°
Magenta	105°
Yellow	90°
Black	45°

To load a PANTONE color file:

1. Open the Color Manager.
2. Display the File menu and choose the **Load** command.
3. In the Item Selector, double-click on the name of the PANTONE file you want.

NOTE: Unless you have one of the printers or the screen listed above, the colors that appear on the screen or in output to color printers may not match PANTONE-identified solid color standards. Use current PANTONE Color Reference Manuals for accurate color.

To purchase PANTONE Color Reference Manuals or other related materials, write to:

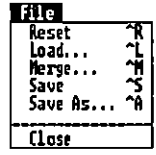
Pantone, Inc.
55 Knickerbocker Road
Moonachie NJ 07074

Color Manager Command Reference

The following sections describe the commands in the Color Manager's menus.

Note that the Color Manager menus list keyboard command equivalents. When the Color Manager is open, these keyboard commands are activated, and the keyboard commands in **Key *Draw! Plus*'s** main menus are inactive.

File Menu



This section describes the commands in the Color Manager's File menu.

Reset Command

The **Reset** command changes the color list so that it contains only White and Black and any colors or fountains that are used in elements in the current picture or in the paste buffer.

Colors or fountains that are not in use are deleted from the list.

The **Reset** command can be used as the first step in starting a new color file or as a means of eliminating unused colors before saving a new color file.

Load Command

The **Load** command displays the Item Selector with a list of the available color file names. The color file you choose from the Item Selector replaces the current color file.

Merge Command

The **Merge** command displays the Item Selector with a list of the available color file names. The color file you choose from the Item Selector is merged with the current color file. The resulting color list contains the combined colors and fountains of both files.

If the two files contain colors whose values are identical but whose names are different, the name from the current file is retained; the colors are not duplicated.

Save Command

The **Save** command saves the marked colors and fountains in the color list to the file named in the Color Manager's title bar.

Colors or fountains that are not marked are not saved to the file, but if they are used in a picture, they become part of the picture and are loaded with the picture.

Save As Command

The **Save As** command displays the Item Selector so you can:

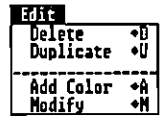
- give a new color file a name and then save it for the first time;
- save an existing color file under a new name.
  The second option usually occurs when you want to save a modified color file but still want to keep the original.

Close Command

The **Close** command closes the Color Manager and returns you to the **Key *Draw! Plus*** workspace. The colors and fountains in the Color Manager at the time you close it will appear in the color tool palettes.

Edit Menu

This describes the commands in the Color Manager's Edit menu.



Delete Command

The **Delete** command removes a selected color or fountain from the color file. The deletion does not become permanent until you save the color file.

To select a color or fountain, click on its name in the color list. The black highlight bar indicates that the color is selected. Do not click on the marker (if present) or the color bar; that will simply change the color's status.

Duplicate Command

> The current color or fountain is not altered; it is merely the starting point for the new color or fountain.

When the Color Manager is in Colors mode, the **Duplicate** command displays the Modify Color dialog so you can create a new color from the currently selected color. The Modify Color dialog is identical to the Add Color dialog.

The new color's percentage values must be unique. If they are not, **Key *Draw! Plus*** displays an alert that the color was not added because it already exists in the current file.

When the Color Manager is in Fills mode, the **Duplicate** command displays the Modify Fill dialog so you can create a new fountain from the currently selected fountain.

If you define a fountain whose start and end colors are the same as those in another fountain in the current file, **Key *Draw! Plus*** displays an alert that the fountain was not added because it already exists.

Add Color/Fill Command

This command's name and function depend on your current selection in the View menu.

- If you select **Colors**, the command is **Add Color**, and it displays the Add Color dialog so you can add a new color.
- If you select **Fills**, the command is **Add Fill**, and it displays the Add Fill dialog so you can add a new fountain.

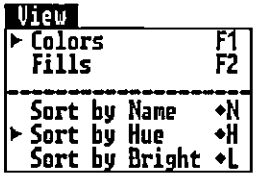
Modify Command

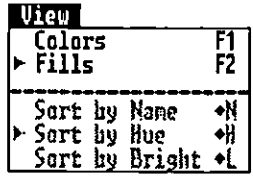
> You can also display the Modify dialogs by double-clicking on the color or fountain name.

The **Modify** command displays the Modify Color dialog or the Modify Fill dialog, depending on the currently selected color or fountain.

View Menu

This section describes the commands in the Color Manager's View menu.





Colors Command

The **Colors** command switches the Color Manager to its mode in which:

- the colors list shows the solid colors in the current picture file or in use on the drawing surface;
- the commands in the Edit and View menus apply only to solid colors. The **Add Color** command is available only in this mode.

Fills Command

The **Fills** command switches the Color Manager to its mode in which:

- the colors list shows the fountains in the current picture file or in use on the drawing surface;
- the commands in the Edit and View menus apply only to fountains. The **Add Fill** command is available only in this mode.

Sort by Name Command

> This command is available only in Colors mode.

The **Sort by Name** command sorts the color list alphabetically by the names of the colors.

Sort by Hue Command

> This command is available only in Colors mode.

The **Sort by Hue** command sorts the color list by the Hue values of the individual colors. See the description of the HSB color model.

The colors are sorted in ascending order from the lowest Hue percentage to the highest percentage.

Colors with the same Hue percentage are grouped together and sorted in *descending* order by their Brightness percentage.

Colors with the same Hue and Brightness values are sorted in ascending order by their Saturation percentage.

Sort by Bright Command

> This command is available only in Colors mode.

The **Sort by Bright** command sorts the color list according to the Brightness value in the HSB color model.

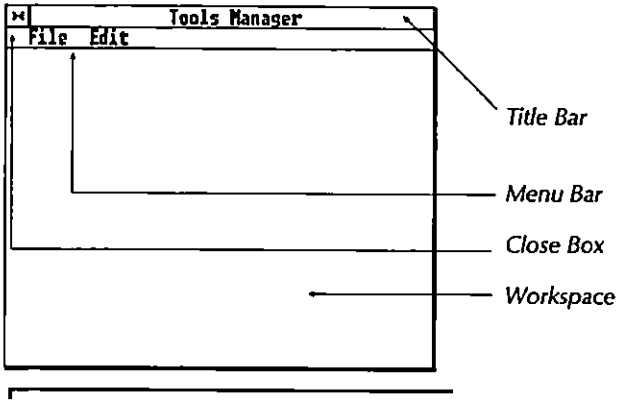
Tools Manager

This chapter describes **Key *Draw! Plus***'s Tools Manager. You can use the Tools Manager to create special tools or custom toolboxes.

To display the Tools Manager:

> You can move the Tools Manager by dragging its title bar.

Choose the **Tools Manager** command from the Options menu.



On color screens, the blue background of the toolbox becomes a gray background when the Tools Manager is open.

Tools Manager Functions

> All tasks described in this chapter can be performed only when the Tools Manager is open.

With the Tools Manager, you can:

- create new tools;
- add tools to the toolbox;
- save custom tools files;
- remove tools from the toolbox;
- change the size of the toolbox;
- change the arrangement of the tools in the toolbox;
- change or edit a tool's icon.

Tools Files

Toolboxes are saved in files with the extension .TLS.

The **Key *Draw! Plus*** installation program installs a default tools file called KEYDRAW.TLS in the \KEYDRAW!\TOOLS directory.

Using the Tools Manager, you can create and save your own special tools files. You can save them in the directory of your choice.

Default Toolbox

> KEYDRAW.INI contains a great deal more than just the toolbox configuration. See chapter 9.

When you start **Key *Draw! Plus,*** the appearance of the toolbox is determined by the file KEYDRAW.INI, which "remembers" how the toolbox was last configured and automatically loads that same configuration.

To change the default toolbox:

Load the toolbox you want as the new default just before you quit **Key *Draw! Plus.*** A new KEYDRAW.INI is written each time you quit **Key *Draw! Plus,*** and the toolbox in place at that time automatically becomes the default.

Tools File Backups

The Global Preferences dialog includes an option that allows you to save a backup copy of your tools file (see chapter 9.)

When the Make Backups Of check box for tools files is turned on, **Key *Draw! Plus*** keeps the last saved version of the tools file as a backup each time you choose the **Save** command from the File menu in the Tools Manager.

Backup tools files have the extension $LS.

The backup file options in the Global Preferences dialog are described in chapter 9.

Toolbox Design

This section describes:

- changing the size of the toolbox;
- changing the arrangement of the tools.

Toolbox Size

> You may need to change the size of the toolbox before rearranging, adding, or removing tools.

You can change the width of the toolbox's shaded background, making room for more or fewer columns of tools. You cannot change the toolbox's height or its position at the left side of the workspace. (You can, however, hide the toolbox from view using the **Toolbox** command. See chapter 5.

To change the size of the toolbox:

Drag the right side of the toolbox's background to the left or right. Note that you cannot drag the background under the tools—in other words, you cannot make the toolbox narrower than the tools themselves.

Tool Arrangement

You can arrange the tools in the toolbox by dragging them to the position you want. The Tools Manager automatically "snaps" tools into position to make them easier to align. To turn off the snap, hold down the **[Ctrl]** key.

For precise placement of tools, select a tool and press one of the arrow keys on the numeric keypad. The selected tool moves by one-pixel increments each time you press an arrow key.

You can use the Tools Manager as a temporary holding place. For example, you can drag tools to the Tools Manager to make room while you rearrange the toolbox. When you are finished, drag the tools back to the toolbox.

Custom Tools

Using the Tools Manager, you can create custom versions of three kinds of tools:

- standard tools
- menu tools
- container tools

Standard Tools

A *standard tool* is any of the default **Key *Draw! Plus*** set of tools—like the Quill, the Rectangle tool, or the Plane.

Custom Standard Tools—Examples:

- a Rectangle tool that draws only rounded rectangles
- a Line tool that draws lines only at set angles
- a Trace tool with pre-set Tracing Options

Menu Tools

A menu tool is a tool that executes one of **Key *Draw! Plus***'s menu commands, often with information pre-set into a dialog displayed by that command.

Custom Menu Tools—Examples:

- a **Page Layout** tool with specific options so you can switch rapidly to a particular layout
- an **Image Options** tool with pre-set options for image and background colors, scaling, and offsets
- a **Rotate** tool with a pre-set center of rotation and rotation angle and the Make Copy button toggled on

Container Tools

> Only menu tools can be placed in a container.

A *container tool* is a special tool that executes more than one menu command at a time. Containers are like the macros that are available in many word processors and other programs.

Container Tools—Examples:

- a tool combining the **Load Image** and **Image Options** commands—the latter with its options pre-set
  This container would display the Item Selector so you can select an image to load and then set the image's colors, pattern, and scale, all in a single step.
- a tool combining the **Grid**, **Guide Lines**, and **Status Line** commands
  This container would toggle the grid, guide lines, and status line on or off in a single step.
- a tool combining the **Rotate**, **Move**, and **Scale** commands
  This container would rotate, move, and scale an element in a single step. With the Make Copy option turned on for each command, the container could produce many rotated, moved, and scaled elements.

Creating Tools

This section describes the steps for creating standard tools, menu tools, and container tools.

NOTE: The maximum number of tools that can be placed in a toolbox is sixty-three.

Standard Tools and Menu Tools

Creating a standard tool or a menu tool typically involves the same sequence of steps in the Tools Manager.

To create a standard tool or menu tool:

1. Choose the **Add** command from the Edit menu to display the Tool Attributes dialog.
   Specify the tool's name, type (Standard or Menu), and function in the Tool Attributes dialog.
2. Choose the **Function** command from the Edit menu.
   Set parameters for the tool or command by filling out the dialog that is displayed. See the description of the tool or command for information on its associated dialog.
   The **Function** command is available if the tool you are creating is either of the following:
   - ➢ a standard tool for which you can set options, like the Trace tool and the Rectangle tool;
   - ➢ a menu command that displays a parameter dialog, like the **Page Layout** and **Image Options** commands.
3. Choose the **Icon** command from the Edit menu if you want to create a custom icon for this tool.
4. Drag the finished tool from the Tools Manager to the toolbox.
5. Save the modified toolbox. If you do not save the file, the modifications to your toolbox could be lost.
   - ➢ To overwrite the currently loaded tools file, choose the **Save** command from the Tools Manager's File menu.
   - ➢ To save the modified toolbox under a new name, choose the **Save As** command from the File menu.

Container Tools

In creating a container tool, you create the container and the menu tools that go into it and then combine them.

To create a container tool:

1. Choose the **Add** command from the Edit menu to display the Tool Attributes dialog.
   Specify the tool's name and type (Container) in the Tool Attributes dialog.
2. Create the menu tools that will go into the container. Follow the steps listed previously under "Standard Tools and Menu Tools."
3. Drag each finished menu tool to the container tool. When the container tool is highlighted, release the mouse button. The menu tool "drops" into the container tool.
4. When all the tools are inside the container, select the container tool and open it by choosing the **Function** command from the Edit menu. The Tools Manager is now in its "Container" editing mode, in which you can:

   ➢ **Duplicate** any menu tools that you want executed more than once;

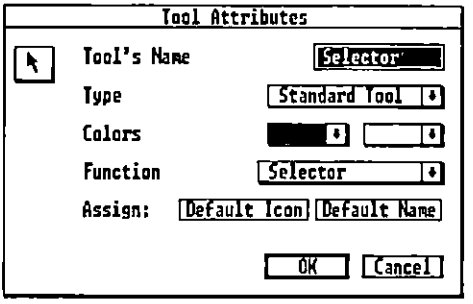
   ➢ set the **Function** of selected menu tools;

   ➢ set the order in which the commands are executed.

   The commands are executed from left to right, row by row. Drag the tools to place them in the order you want.
   To leave "Container" editing mode, choose the **Close** command from the File menu or click on the close box.
5. If you want to create a custom icon for the new tool, choose the **Icon** command from the Edit menu to display the Tools Manager's Icon Editor.
6. Drag the finished container tool to the toolbox.
7. Save the modified toolbox. If you do not save the file, the modifications to your toolbox could be lost.
   To overwrite the currently loaded tools file, choose the **Save** command from the Tools Manager's File menu.
   To save the modified toolbox under a new name, choose the **Save As** command from the Tools Manager's File menu.

Tool Attributes

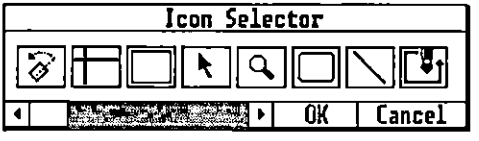
When you choose the **Add** command or the **Attributes** command (both are in the Tools Manager's Edit menu), the Tool Attributes dialog is displayed.



Icon Selector

> The Icon Selector and the Icon Editor are not the same thing.

The Tool Attributes dialog has a hidden Icon Selector so you can assign existing icons to your custom tools. (You can also create *new* icons with the Icon *Editor*, which is described later in this chapter. To display the Icon Selector, click on the tool icon in the dialog's upper left corner.



To bring other icons into view in the Icon Selector, use the scroll arrows, scroll bar, or slider.

Using the Icon Editor, you can create your own icons and add them to the Icon Selector, or you can delete icons you do not want.

To choose an icon from the Icon Selector:

Click on the icon you want and then click on the Icon Selector's OK button. The icon in the Tool Attributes dialog is replaced by the one chosen from the Icon Selector.

For information on using the Icon Selector with the Icon Editor, see page 13-11.

Tool's Name

Use this field to give the new tool a name. You have two options:

- You can type a name directly into this field.
- You can accept the name supplied automatically when you choose the tool's function. See the description of the Function button in this dialog.

Type

From this menu, choose the type of tool you are creating:

- Standard Tool
- Menu Tool
- Container Tool

Colors

The first pop-up sets the color for the tool icon's design (the black pixels in the Icon Editor). The second pop-up sets the color for the tool icon's background.

Function

This pop-up menu lists the available functions for Standard Tools and Menu Tools.

- If your Type choice is Standard Tool, the menu lists the names of the standard tools for which a tool can be made.
- If your Type choice is Menu Tool, the menu lists the commands for which a tool can be made.

Assign

These buttons are available only if you are creating a Standard Tool. To choose either option, click on the appropriate button.

Default Icon

The default icon for this tool, as determined by its Function, is assigned to the new tool. For example, the default icon for a Selector tool is the small arrow pointing up and to the left.

Default Name

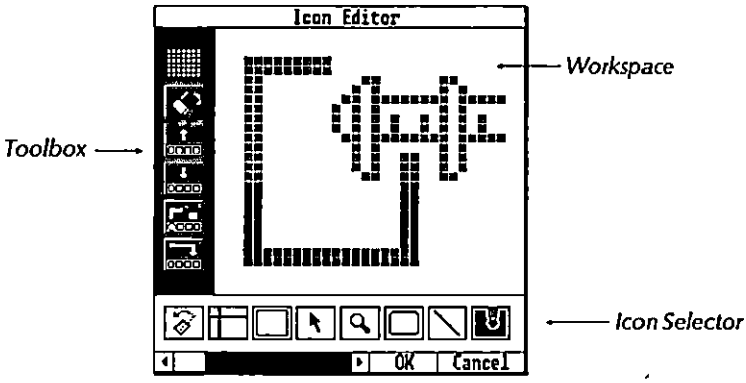
The default name for this tool—the name listed in the Function menu—is assigned to the new tool.

Icon Editor

The Icon Editor is a tool with which you can design your own custom tool icons.

To display the Icon Editor:

Select a tool—either in the toolbox or in the Tools Manager—and then choose the **Icon** command from the Edit menu.



Workspace

The Icon Editor's workspace is where you draw the tool icons.

Toolbox

The Icon Editor's toolbox contains these tools:

- grid switch
- eraser
- upload tool
- download tool
- delete tool
- end-of-list tool

Grid Switch

The grid switch turns the workspace's grid on and off. This grid is simply a drawing aid, like a template; it is not comparable to the grid in the main **Key *Draw! Plus*** workspace.

Eraser

Unless you have marked a block, clicking on the eraser clears the Icon Editor workspace entirely.

If you mark a block, clicking on the eraser deletes the block without affecting the rest of the icon.

Upload Tool

The upload tool copies a selected icon from the Icon Selector into the workspace.

When you click on the upload tool, the Icon Editor displays an alert asking if you want the icon currently in the workspace to be replaced.

> The upload tool is available only when you select an icon in the Icon Selector.

Click on OK if you do not mind losing the current icon.

- Click on Cancel if you do not want to lose the current icon. You can preserve it by first using the download tool or the end-of-list tool.

Download Tool

The download tool copies an icon from the workspace to the Icon Selector, replacing the icon currently selected there.

> The download tool is available only when you select an icon in the Icon Selector.

You can use the download tool to preserve an icon for later use. The download tool differs from the end-of-list tool in that it does not add to the total number of icons in the Icon Selector.

Delete Tool

The delete tool removes the currently selected icon from the icon selector. Deleted icons cannot be undeleted.

> The delete tool is available only when you select an icon in the Icon Selector.

End-of-List Tool

The end-of-list tool copies an icon from the workspace to the end of the list of icons in the Icon Selector.

You can use the end-of-list tool to preserve an icon for later use. The end-of-list tool differs from the download tool in that it does not replace any icons in the Icon Selector but does add to the total number of icons.

Icon Selector

The Icon Selector holds tool icons you can use as starting points for the icons you are creating.

> All tools are described on the two previous pages.

- To copy a selected icon from the Icon Selector to the workspace, use the upload tool.
- To replace a selected icon in the Icon Selector with the icon in the workspace, use the download tool.
- To delete a selected icon from the Icon Selector, use the delete tool.
- To copy the icon in the workspace to the end of the list of tools in the Icon Selector, use the end-of-list tool.

Scrolling the Icon Selector

The Icon Selector can hold more icons than can be displayed at one time. You can scroll the icons in the Icon Selector by clicking on an arrow, clicking in the scroll bar, or dragging the slider.

Basic Drawing Techniques

Icons are made of individual black and white dots called *pixels*. In drawing an icon, you are actually changing pixels from white to black or from black to white; the action of the mouse changes the pixel to its opposite state.

To draw one pixel at a time:

Click in the Icon Editor's workspace.

- If you click on a white pixel, it changes to black.
- If you click on a black pixel, it changes to white.

To draw more than one pixel at a time:

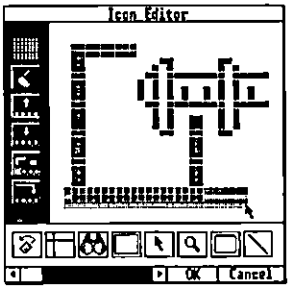
Drag in the Icon Editor's workspace.

- If you start on a white pixel, all pixels touched by the pointer are changed to black.
- If you start on a black pixel, all pixels touched by the pointer are changed to white.

Marking Blocks

You can mark rectangular areas of the Icon Editor workspace as a block, much as you would mark a block of text in a word processing program. Having marked a block, you can then delete it or move it.

To mark a block of pixels, hold down the **[Alt]** key as you drag a selector box around the area you want. The block is indicated by a gray pattern.



Deleting Blocks

To delete a block, click on the eraser in the Icon Editor's toolbox. Deleted blocks cannot be undeleted.

Moving Blocks

To move a block, drag it where you want it. The block will completely overwrite the area to which you move it.

Unmarking Blocks

To unmark a block, click anywhere in the Icon Editor workspace outside the block.

Drawing a Straight Line

To draw a horizontal or vertical straight line, hold down the **[Ctrl]** key as you drag in the Icon Editor workspace.

> Drag steadily and not too fast. If you drag too fast, the Icon Editor might skip a pixel here and there.

Remember that the line will be the opposite color from your starting point. If you start on a white pixel, the line will be black. If you start on a black pixel, the line will be white, in effect erasing pixels in a straight line.

Drawing a Pixel Rectangle

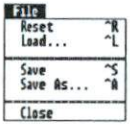
To draw a rectangular outline, hold down the **[Shift]** key and drag. As you drag, the Icon Editor shows you a gray-colored preview of the rectangle. Like the straight line, the rectangle will be the opposite color from your starting point—a black rectangle if you start on a white pixel; a white rectangle if you start on a black pixel.

Tools Manager Command Reference

The next two sections describe the commands in the Tools Manager's two menus.

Note that the Tools Manager menus list keyboard command equivalents. When the Tools Manager is open, these keyboard commands are activated, and the keyboard commands in **Key *Draw! Plus***'s main menus are inactive.

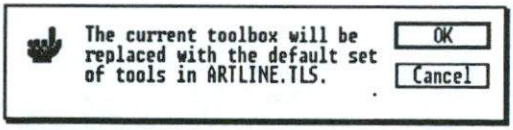
File Menu



This section describes the commands in the Tools Manager's File menu.

Reset Command

The **Reset** command replaces the current tools file with the tools in the file KEYDRAW.TLS. When you choose the **Reset** command, **Key *Draw! Plus*** displays the following alert:



The alert's Cancel button gives you the option of canceling the **Reset** command and returning to the Tools Manager to save any changes you have made to the current tools file.

Load Command

The **Load** command displays the Item Selector so you can load another tools file in place of the current one.

When you choose the **Load** command, the Item Selector defaults to the .TLS extension and its directory window lists only files with that extension.

Save Command

The **Save** command saves the current selection and arrangement of tools in the toolbox into the currently loaded tools file.

If you have turned on backups of your tools files in the Global Preferences dialog (chapter 9), the previous version of the tools file is kept, with the extension $LS.

If tools file backups are not turned on, saving the current file overwrites the previous saved version.

> *CAUTION: Save any modifications to a tools file you want to keep. The changes to your toolbox are kept in KEYDRAW.INI, but if something happens to KEYDRAW.INI, your modified tools will be lost if you have not saved the tools file.*

Save As Command

The **Save As** command displays the Item Selector so you can save the current selection and arrangement of tools in the toolbox:

- under a new name;
- to another directory or disk.

Close Command

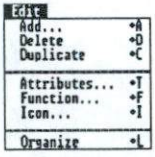
> Clicking on the close box has the same effect as choosing the **Close** command.

The effect of the **Close** command depends on what level of the Tools Manager you are working in:

- If you are in the Tools Manager's main level, the **Close** command removes the Tools Manager from the screen and returns you to the **Key *Draw! Plus*** workspace.
- If you are editing a container tool in the function editor, the **Close** command returns you to the main level of the Tools Manager.

Edit Menu

This section describes the commands in the Tools Manager's Edit menu. Except for **Add** and **Organize**, these commands are available only when a tool is selected, either in the toolbox or in the Tools Manager.



Add Command

The **Add** command displays the Tool Attributes dialog as the first step in adding a new tool.

The Tool Attributes dialog is described in this chapter.

Delete Command

> Be careful when deleting tools. Deleted tools cannot be undeleted.

The **Delete** command removes a selected tool from the Tool Manager window.

As a safeguard, you cannot delete a tool directly from the toolbox; you must first drag it into the Tools Manager.

Duplicate Command

The **Duplicate** command makes a copy of a selected tool in the Tools Manager. Note that you cannot duplicate a tool while it is in the toolbox; you must first drag it to the Tools Manager.

A duplicate tool retains all the characteristics of the original, including its attributes and function.

Container Tools

The **Duplicate** command is the easiest way to make a container tool that repeats the same action several times.

For example, to make a dozen rotated copies of an element, you would make a container tool that holds eleven copies of a **Rotate** command tool. (The original element plus eleven copies equals twelve.)

The Function settings for each **Rotate** command tool would:

- define the center of rotation;
- set the angle of rotation;
- turn the Make Copy option on.

Attributes Command

The **Attributes** command displays the Tool Attributes dialog, which is described in this chapter.

Function Command

The **Function** command's display varies according to the currently selected tool.

- standard tool
  The tool's options dialog is displayed so you can set specific options for that tool—for example, the Tracing Options dialog (Trace tool) or the Plane Options dialog (Plane tool).
  If the tool does not have an options dialog, the **Function** command is not available.
- menu tool
  The dialog associated with the command is displayed so you can pre-set command parameters—for example, the Image Options dialog (**Image Options** command) or the Set Grid dialog (**Set Grid** command).
  If the command does not display a dialog, the **Function** command is not available.
- container tool
  The Tools Manager switches to container editing mode. Creating a container tool is described in this chapter.

Icon Command

The **Icon** command displays the Tools Manager's Icon Editor, described in this chapter.

Organize Command

The **Organize** command arranges the tool icons into neat rows and columns.

Resident PostScript Fonts

This appendix lists the names of the resident PostScript fonts and the names of their Artline counterparts.

PostScript font name	**Artline font name**
ITC Avant Garde®	Advantage
ITC Bookman®	Booker
Courier	Courier
Helvetica®	Nimbus Sans
Helvetica® Narrow	Suisse Thin
New Century Schoolbook	Scholar
Palatino®	Palladio
Times® Roman	Nimbus Serif
ITC Zapf Chancery®	Zapf Chancery
ITC Zapf Dingbats®	Wombat
Symbol	Symbol

Key *Draw! Plus* and Memory

This appendix describes how Key ***Draw! Plus*** uses system memory, expanded memory, and disk space.

Memory and Disk Requirements

To run Key ***Draw! Plus***, your must have the following minimum amounts of system memory, disk space, and expanded memory:

- system memory
  A minimum of 505Kb of free memory is required.
- disk space
  A minimum of 512Kb of disk space is required on the same drive on which the Key ***Draw! Plus*** application and system software files are installed.
- expanded memory
  Expanded memory is *not* required. However, a minimum of 512Kb of expanded memory must be available for Key ***Draw! Plus*** to be able to use it.

In addition, the following settings are suggested minimums for your CONFIG.SYS file:

FILES = 20
BUFFERS = 20

Not Enough Memory

If you do not have at least 505Kb of RAM and 512Kb of disk space, Key ***Draw! Plus*** cannot be started. The screen will switch to graphics mode, but when Key ***Draw! Plus*** detects that there is not enough memory, this alert is displayed:

To make memory available, remove any desk accessories or other memory-resident programs. If you need more memory, reduce the BUFFERS count in CONFIG.SYS.

Expanded Memory

Key *Draw! Plus* can use *expanded* memory (also referred to as EMS) for loading images and other functions.

> You may also need to set switches on your memory board.

When you purchase a board with additional memory for your system, the memory can be configured as RAM (up to the limit of your system), expanded memory, or *extended* memory. To use extended memory as EMS, you must convert it to EMS by adding an *expanded memory driver* to your CONFIG.SYS file. For example, the line

DEVICE=C:\DRDOS\EMM386.SYS

loads the DR DOS™ 5.0 expanded memory driver.

As mentioned above, note that expanded memory is not required in this version of **Key *Draw! Plus***. If enough expanded memory is available, however, **Key *Draw! Plus*** will use it.

Paging Files

If you do not have EMS or if there is not enough expanded memory to use, **Key *Draw! Plus*** opens a temporary *paging file* in the directory in which KEYDRAW!.APP is located.

This paging file converts a portion of your hard disk to "virtual expanded memory" so that you can still use all of **Key *Draw! Plus***'s features.

Lost Clusters

If your computer "crashes" at any time (due to a power failure or other unforeseen circumstance), you may find that a portion of your disk space is occupied by "lost clusters" that should be deleted.

To detect lost clusters, type the following command from the operating system prompt:

CHKDSK [d:] /F

where [d:] is the identifier for the drive on which **Key *Draw! Plus*** is installed. If you are already logged on to that drive, you need not include the drive identifier in the **CHKDSK** command.

Refer to your operating system manual for a description of the **CHKDSK** command and how to use it to remove lost clusters.

Memory Status

To display a dialog that includes information on how memory is being used, choose the **Key *Draw! Plus*** Info command from the KEYDRAW! menu (at the right end of the menu bar).

This dialog tell whether expanded memory is being used and, if so, how much is being used.

Custom Toolboxes

This appendix describes the five custom toolboxes included with the **Key *Draw! Plus*** installation. These toolboxes are contained in the following files:

- 1_COLUMN.TLS
- 4_COLUMN.TLS
- ALIGN.TLS
- CUSTOM.TLS
- TRACE.TLS

The **Key *Draw! Plus*** installation program placed these files in the \KEYDRAW\TOOLS directory on the same drive that contains the **Key *Draw! Plus*** application files.

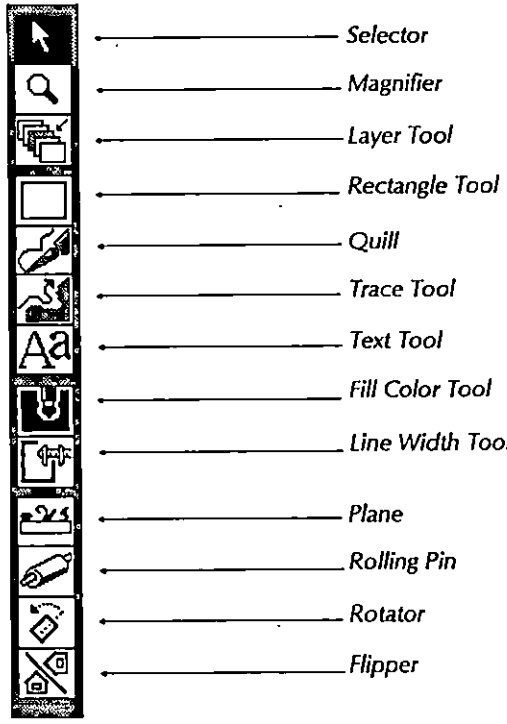
You can use the custom toolboxes as they come "out of the box," or you can use them as templates, the starting point for creating your own toolboxes.

Opening and using custom toolboxes is described in Chapter 13.

1_COLUMN.TLS

The tools in 1_COLUMN.TLS are a subset of those contained in KEYDRAW.TLS, arranged in a single column to give you a larger workspace. The tools' icons and functions are identical to those described in Chapter 2.

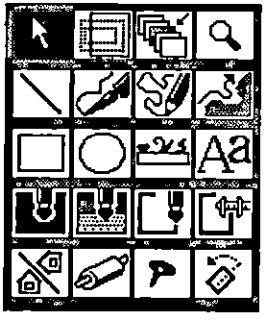
To use the Fill Color tool for fountains or line color, double-click on the tool and change its function in the Color Tool Options dialog (see page 2-44).



4_COLUMN.TLS

The tools file 4_COLUMN.TLS contains all but one of the tools contained in KEYDRAW.TLS. (The absent tool is the Rounded Rectangle tool.)

This toolbox is primarily intended for low-resolution systems—such as those using Hercules Video—where the standard toolboxes are too "tall" for the screen.



Selector, View Tool, Layer Tool, Magnifier

Line Tool, Quill, Sketch Tool, Trace Tool

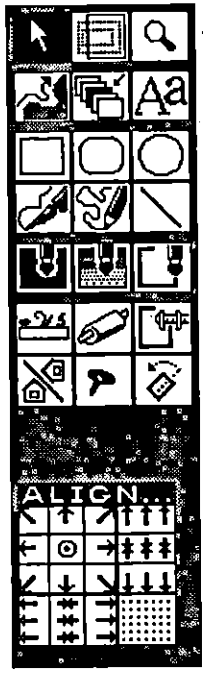
Rectangle Tool, Circle Tool, Plane, Text Tool

Fill Color Tool, Fountain Tool, Line Colot Tool, Line Width Tool

Flipper, Rolling Pin, Thumbtack, Rotator

ALIGN.TLS

The tools file ALIGN.TLS contains the same tools as KEYDRAW.TLS, arranged in three columns, plus a special alignment



Selector, View Tool, Magnifier

Trace Tool, Layer Tool, Text Tool

Rectangle Tool, Rounded Rectangle Tool, Circle Tool

Quill, Sketch Tool, Line Tool

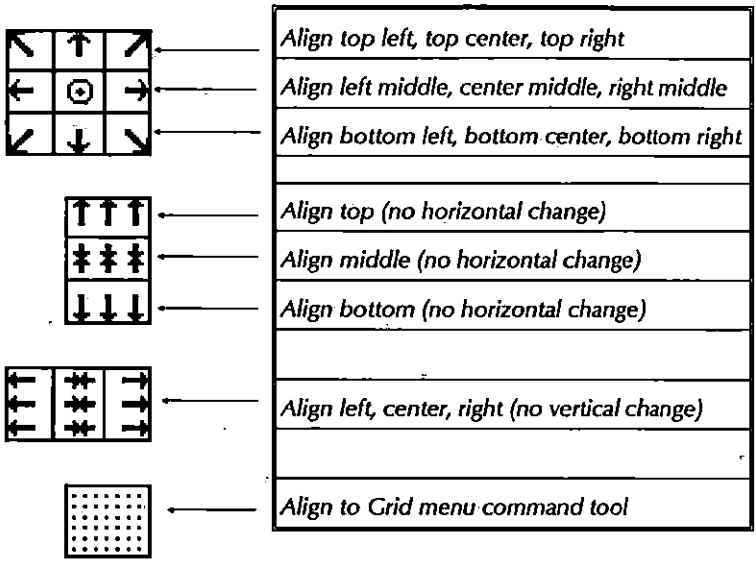
Fill Color Tool, Fountain Tool, Line Color Tool

Plane, Rolling Pin, Line Width Tool

Flipper, Thumbtack, Rotator

tool.

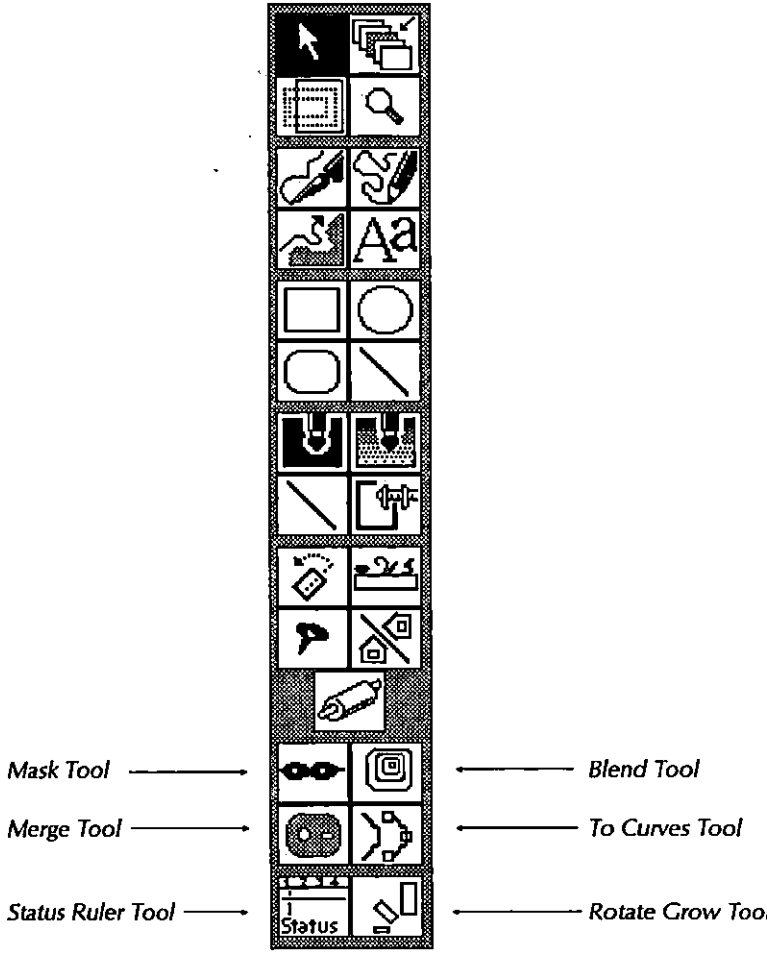
The components of the alignment tool are shown below.
The **Align** command is described in chapter 6.


Align top left, top center, top right
Align left middle, center middle, right middle
Align bottom left, bottom center, bottom right
Align top (no horizontal change)
Align middle (no horizontal change)
Align bottom (no horizontal change)
Align left, center, right (no vertical change)
Align to Grid menu command tool

CAUTION: The alignment tool is made up of many small pieces carefully assembled. For that reason, we recommend that you not try to copy it to another toolbox or move it within this toolbox.

CUSTOM.TLS

The tools file CUSTOM.TLS contains the same tools as KEYDRAW.TLS, in the same arrangement, plus six extra tools described below.



Mask Tool

The Mask tool is a menu tool for the **Mask** command (chapter 8). The Draw Mask Element option is turned off.

Blend Tool

The Blend tool is a menu tool for the **Blend** command (chapter 8). This tool blends the selected elements in ten steps. The Reverse Curve Direction option is turned off.

Merge Tool

The Merge tool is a menu tool for the **Merge Elements** command (chapter 8).

To Curves Tool

The To Curves tool is a menu tool for the **Convert to Curves** command (chapter 8).

StatusRuler Tool

The StatusRuler tool toggles the current state of the status line and the rulers. For example, if both are turned off, clicking on the StatusRuler tool turns them on. If the status line is off and the ruler is on, clicking on the StatusRuler tool turns the status line on and the ruler off.

Rotate Grow Tool

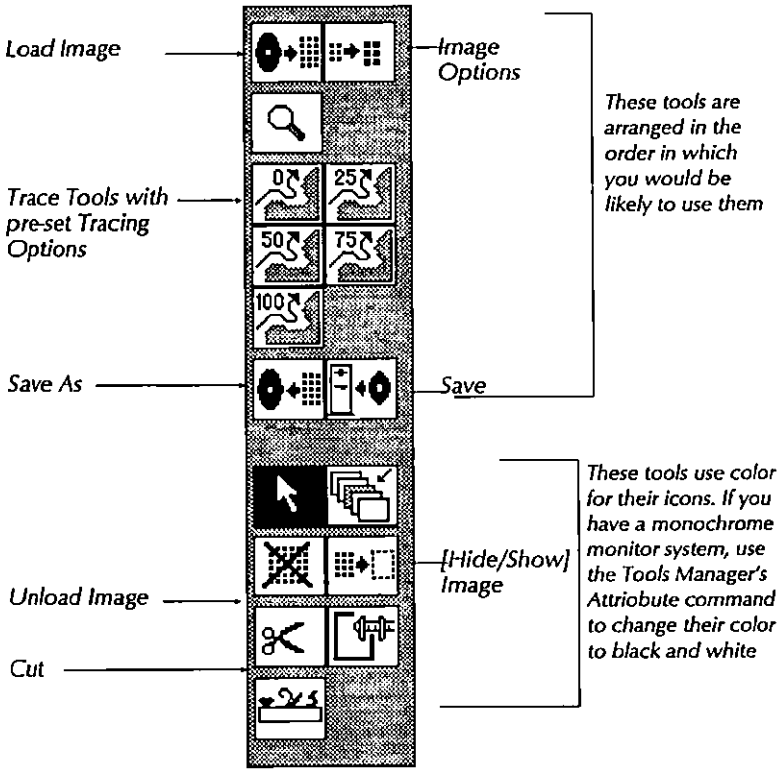
The Rotate Grow tool is a container that holds six sets of the three commands described below:

- A **Rotate** command tool, with a 30° Rotation Angle around the Selection Center—Make Copy turned *on*.
- A **Scale** command tool, set for 110% Uniform scaling around the Selection Center—Make Copy turned off.
- A **Move** command tool, with both the Horizontal and Vertical distance set to 0.20 inches—Make Copy turned off.

When you click on this tool, the selected element is rotated 30° and copied, scaled 110%, and then moved down and to the right 0.20 inches—and then the sequence is repeated five more times.

TRACE.TLS

The tools file TRACE.TLS contains a set of custom tools designed to expedite image tracing.


Load Image
Image Options
These tools are arranged in the order in which you would be likely to use them
Trace Tools with pre-set Tracing Options
0
25
50
75
100
Save As
Save
These tools use color for their icons. If you have a monochrome monitor system, use the Tools Manager's Attriobute command to change their color to black and white
[Hide/Show] Image
Unload Image
Cut

TRACE.TLS has five Trace tools with pre-set precision percentages of 0%, 25%, 50%, 75% and 100%. (Tracing precision is described on page 11-9.) Each tool has a gap size of zero and is set for Line Art.

> TRACE.TLS also includes a standard Magnifier tool, Selector, Layer tool, Line Width tool, and Plane.

TRACE.TLS includes tools for the following menu commands (references are to the pages on which the commands are described in detail):

- **Load Image** (chapter 4)
- **Image Options** (chapter 11)
- **Save As** and **Save** (chapter 3)
- **Unload Image** (chapter 4)
- [Hide/Show] **Image** (chapter 5)
- **Cut** (chapter 7)

Index

!

.$EM extension, 9-1
.$LS extension, 9-2, 13-2
.$OL extension, 9-2
.GEM file format, 3-2
.IMG extension, 4-1
.IMG files
  valid formats for tracing, 4-1
.PCX files
  valid formats for tracing, 4-1
.TLS extension, 13-2
1_COLUMN.TLS, C-2
4_COLUMN.TLS, C-3
ƒ symbol, viii
"Abandon/Save" alert, 3-1

A

Abandon command, 3-7
Active command
  (Layer Manager), 10-12
Active Layer (Export command), 3-5
Add Color command (Color
Manager), 12-6, 12-17
Add command
  (Tools Manager), 13-15
Add Fill command
  (Color Manager), 12-8, 12-17
Add Layer command
  (Layer Manager), 10-4, 10-10
Add Point command
  (Plane tool pop-up), 2-42
adding colors, 12-6
adding fountains, 12-8
alerts, 1-14
  Abandon/Save, 3-1
  Cannot find tracing
    image, 11-7, 11-11
  Cannot trace segment, 11-8
  exit buttons, 1-14
  Merging multiple-layer
    file, 3-3, 10-5
  Not enough memory to run
    Key Draw! Plus, B-1
  Wrong file type, 4-1
  Wrong image file format, 4-2
Align command, 6-7
Align Horiz command
  (Plane tool pop-up), 2-44
Align to Grid command, 6-6
Align Vert command
  (Plane tool pop-up), 2-44
ALIGN.TLS, C-4
aligning elements, 6-7
alignment tool in ALIGN.TLS, C-4
All command (Layer Manager), 10-12
anchor points, 2-15
arrows (scrollers), 1-5
KEYDRAW.COL
  loaded by New command, 3-2
ascender, 2-24
Auto (Create Text Item dialog), 2-24
Auto Redraw command
  (Layer Manager), 10-14
autotracing
  See tracing

B

Backspace key
  deleting points drawn
    with Quill, 2-20
backup files, 9-1
  saving, 3-4
bit-image files, 11-1
Blend command, 8-6
Blend tool (CUSTOM.TLS), C-7
blends, 8-6
  colors in, 8-10
  converting to curves, 8-15
  elements not permitted, 8-10
  rainbow effect, 8-10
  splitting, 8-15
Brightness (HSB color model), 12-5
Bring to Front command, 6-2
BUFFERS setting (CONFIG.SYS), B-1

C

Cancel button, 1-13
caps
See line end styles
CGA monitors, C-3
check boxes, 1-11
CHKDSK command, B-2
Circle tool, 2-28
circles
drawing, 2-28
drawing from center, 2-29
screen distortion, 2-28
click (mouse technique), 1-6
clip art, vi
Clone command, 2-45, 7-3, 8-11
Close command (Color Manager), 12-16
Close command (Layer Manager), 10-2, 10-10
Close command (Tools Manager), 13-14
clusters, B-2
CMY color model, 12-4
compared to RGB and HSB, 12-5
converting to CMYK, 12-6
Color & Pattern (Image Options dialog), 11-3
color correction, 3-15
color files, 12-2
adding colors, 12-7
adding fountains, 12-12
creating, 12-13
Color Manager, 12-1
Colors mode, 12-6
Fills mode, 12-8
modifying colors, 12-7
modifying fountains, 12-11
Color Manager command, 12-1
color models, 12-3
CMY, 12-4
comparison table, 12-5
HSB, 12-4
RGB, 12-4
Color Options dialog, 2-31
color separation, 3-13
colors
adding to color file, 12-7
availability in Color Manager and tools, 12-2
creating, 12-6
deleting from color file, 12-16
hiding, 5-2
loading PANTONE, 12-14
modifying, 12-7
PANTONE, 12-13
picture, 12-3
removing from color file, 12-8
unaffiliated, 12-3
Colors command, 5-2
Colors command (Color Manager), 12-6, 12-18
Colors mode (Color Manager), 12-6
Combine menu, 8-1
commands
keyboard equivalents, 1-9
Abandon, 3-7
Active (Layer Manager), 10-12
Add (Tools Manager), 13-15
Add Color (Color Manager), 12-6, 12-17
Add Fill (Color Manager), 12-8, 12-17
Add Layer (Layer Manager), 10-4, 10-10
Add Point (Plane tool pop-up), 2-42
Align, 6-7
Align Horiz (Plane tool pop-up), 2-44
Align to Grid, 6-6
Align Vert (Plane tool pop-up), 2-44
All (Layer Manager), 10-12
Attributes (Tools Manager), 13-15
Auto Redraw (Layer Manager), 10-14
available and unavailable, 1-9
Blend, 8-6
Bring to Front, 6-2
choosing, 1-8
Clone, 2-45, 7-3, 8-11
Close (Color Manager), 12-16
Close (Layer Manager), 10-2, 10-10
Close (Tools Manager), 13-14
Color Manager, 12-1
Colors, 5-2
Colors (Color Manager), 12-6, 12-18
Convert to Curves, 8-14
Copy, 7-2
Cut, 7-1
Delete, 7-3

Delete (Color Manager), 12-16
Delete (Tools Manager), 13-15
Delete Point (Plane tool pop-up), 2-42
Duplicate, 2-45, 7-3
Duplicate (Color Manager), 12-17
Duplicate (Tools Manager), 13-15
Element Info, 2-16, 6-8
Export, 3-5
Fills (Color Manager), 12-8, 12-18
Font Manager, 9-5
Fountains, 5-2
Function (Tools Manager), 13-15
Grid, 5-4
Group, 6-4
Guide Lines, 5-5
Icon (Tools Manager), 13-16
Image, 4-2, 5-1
Image Options, 4-2, 11-3
Join Points (Plane tool pop-up), 2-42
Key Draw! Plus Info, B-3
Layer Manager, 10-2
Load (Color Manager), 12-15
Load (Tools Manager), 13-13
Load Image, 4-1, 11-2
Lock, 2-39, 6-4
Mask, 8-1
Merge (Color Manager), 12-15
Merge Elements, 8-3
Merge File, 3-3
Modify (Color Manager), 12-7, 12-12, 12-17
Modify Layer (Layer Manager), 10-10
Move, 7-4
New, 3-2
Open, 3-2
Organize (Tools Manager), 13-16
Page Layout, 3-7
Paste, 7-2
PostScript, 3-10
Preferences, 9-1
Quit, 3-18
Redraw (Layer Manager), 10-14
Remove Layer (Layer Manager), 10-10
Repeat, 7-8
Reset (Color Manager), 12-13, 12-15
Reset (Tools Manager), 13-13
Rotate, 7-4
Rulers, 5-3
Save, 3-4
Save (Color Manager), 12-16
Save (Tools Manager), 13-14
Save As, 3-4
Save As (Color Manager), 12-16
Save As (Tools Manager), 13-14
Save Preferences, 9-3
Scale, 7-6
Select All, 2-4, 7-3
Send to Back, 6-1
Set Grid, 5-5
Set Guide Lines, 5-6
Slides (Layer Manager), 10-13
Smooth (Plane tool pop-up), 2-43
Snap to Grid, 5-4
Sort by Bright, 12-18
Sort by Hue (Color Manager), 12-18
Sort by Name (Color Manager), 12-18
Split Element, 8-15
Split Point (Plane tool pop-up), 2-42
Status Line, 5-3
Step in Back, 6-2
Step in Front, 6-2
Symmetric (Plane tool pop-up), 2-43
Text Along Path, 8-11
To App, 3-16
To Curve (Plane tool pop-up), 2-42
To Line (Plane tool pop-up), 2-42
To Output, 3-18
toggles, 5-1
Toolbox, 2-2, 5-6
Tools Manager, 13-1
Undo, 7-1
Ungroup, 6-6
Unload Image, 4-2
Unlock, 6-4
Visible (Layer Manager), 10-12
compound curves, 2-17
  drawing, 2-17
CONFIG.SYS, B-1, B-2
container tools, 13-4
  creating, 13-5
contrast (tracing options), 11-11
Convert to Curves command, 8-14
Copy command, 7-2
copying elements, 2-7
corner points, 2-15

Courier font
PostScript resident form, 9-6
creating color files, 12-13
creating colors, 12-6
creating fountains, 12-8
crop marks
See trim marks
cross (pointer form), 2-16
crosshair (pointer form), 2-16
Ctrl-click element selection, 2-3
curves
adding lines, 2-19
compound, 2-17
drawing, 2-17
editing, 2-40
re-opening, 2-20
simple, 2-17
solid tangent edits, 2-41
Custom (Create Text Item dialog), 2-24
Custom paper size, 3-12
custom toolboxes, C-1
1_COLUMN.TLS, C-2
4_COLUMN.TLS, C-3
ALIGN.TLS, C-4
CUSTOM.TLS, C-6
TRACE.TLS, C-8
custom views, 2-12
CUSTOM.TLS, C-6
Cut command, 7-1

D

default layer, 10-3
Delete command, 7-3
Delete command (Color Manager), 12-16
Delete command (Tools Manager), 13-15
Delete Point command (Plane tool pop-up), 2-42
descender, 2-24
desk accessories, B-1
dialogs, 1-10
Add Color, 12-6
Add Fill, 12-8
Add Layer, 10-4, 10-7
Blend Elements, 6-10, 8-7
check boxes, 1-11
clearing fields, 1-11
Color Manager, 12-1
Color Tool Options, 2-31
Create Text Element, 2-22, 6-9
Custom Page Size, 3-8
Custom Size, 2-23
direct entry fields, 1-11
Element Alignment, 6-7
Element Info, 6-9
exit buttons, 1-13
exiting, 1-13
Export Picture, 3-5
Font Manager, 9-5
Global Preferences, 9-1
Guide Lines, 5-6
Image Options, 11-3
Layer Manager, 10-2
Line Attributes, 2-34
Line Options, 2-29
Mask Element, 6-10
Mask Elements, 8-2
memory information, B-3
Modify Layer, 10-6
Move Elements, 7-4
moving, 1-14
Page Layout, 3-7
pop-up menus, 1-13
pop-up sliders, 1-12
PostScript Options, 3-13
PostScript Output, 3-10
Preview Curve, 11-9
radio buttons, 1-10
Rectangle Options, 2-27
Rotate Elements, 7-4
Rotator Options, 2-36
Run Application, 3-16
Scale Elements, 7-6
Selector Options, 2-8
Set Grid, 5-5
Text Along a Path, 6-10, 8-12
Tool Attributes, 13-6
Tools Manager, 13-1
Tracing Options, 11-5, 11-10
dingbats
See Wombat
direct entry fields, 1-11
direction points, 2-17, 2-40
directory path
changing in Item Selector, 1-16
directory tree, 1-16
disk space requirements, B-1
documentation set, vi
dot screen (fountains), 12-11
dot screens, 3-14
double-click (mouse technique), 1-6
DR DOS 5.0 (operating system), B-2

drag (mouse technique), 1-6
Draw Mask Element (Mask Elements dialog), 8-2
drawing surface, 1-3
drop-down menus, 1-9
Duplicate command, 2-45, 7-3
Duplicate command (Color Manager), 12-17
Duplicate command (Tools Manager), 13-15

E

Edit menu, 7-1
Element Info command, 2-16, 6-8
Element menu, 6-1
elements, 1-7
  255-point limit, 2-15
  aligning, 6-7
  aligning to grid, 6-6
  blending, 8-6
  changing order in stack, 6-1
  changing shape with Plane, 2-38
  cloning, 7-3
  combining into single layer, 10-5
  copying, 2-7
  copying (table), 2-8
  copying between layers, 10-4
  copying part with the Plane, 2-45
  copying to paste buffer, 7-2
  copying while rotating, 7-6
  copying while scaling, 7-8
  copying with Rotator, 2-36
  copying with the Flipper, 2-46
  cutting to paste buffer, 7-1
  deleting, 7-3
  distorting with rolling pin, 2-47
  drawing to grid, 5-4
  duplicating, 7-3
  flipping, 2-46
  groups, 6-5
  information dialog, 6-9
  locking, 6-4
  masking, 8-1
  merging, 8-3
  moving, 7-4
  moving from layer to layer, 10-5
  moving or scaling with grid snap on, 5-4
  moving with Element Info dialog, 6-9
  pasting from buffer, 7-2
  rainbow effect, 8-10
  rotating, 2-35, 7-4
  scaling, 2-5, 7-6
  scaling with Element Info dialog, 6-9
  selected, 2-2
  selecting, 2-3
  selecting (table), 2-4
  selecting all, 7-3
  selecting element on bottom of stack, 2-3
  selecting overlapping elements ([F4] key), 2-4
  splitting, 8-15
  stacks, 1-7, 10-1
  ungrouping, 6-6
  unlocking, 6-4
ellipses
  drawing from center, 2-29
EMM386.SYS, B-2
EMS
  See expanded memory
encapsulated PostScript, 3-11
EPS file format
  opening in Key Draw! Plus, 3-2
EPSF, 3-11
exit buttons, 1-13
  [F] key shortcut, 1-13, 1-14
  [Esc] key shortcut, 1-13, 1-14
exit the dialog, 1-14
expanded memory, B-2
  drivers, B-2
  requirements, B-1
  virtual, B-2
Export command, 3-5
  Active Layer option, 3-5
  Multiple .GEM Files option, 3-6, 10-7
  Multiple-Page .GMP File option, 3-7, 10-8
  Selected Elements option, 3-6
  Single-Sheet .GEM File option, 3-6
  Slides option, 3-5, 10-7
  Spot Colors option, 3-5
  Visible Layers option, 3-5
exporting files, 3-5
extensions, 1-8

F

file formats
  valid for Key Draw! Plus, 3-2
  valid for merging, 3-4
File menu, 3-1

file types, 1-8
files
backups, 9-1
bit-image, 11-1
exporting, 3-5
merging, 3-3
merging from multiple layers, 3-3
merging from one layer, 3-3
opening, 3-2, 9-2
saving, 3-4
saving for first time, 3-4
saving to directory or disk, 3-4
saving under new name, 3-4
vector, 11-1
FILES setting (CONFIG.SYS), B-1
Fill Color tool, 2-30
New Color option, 12-6
fills
See fountains
Fills command (Color Manager), 12-8, 12-18
Fills mode (Color Manager), 12-8
flip line, 2-46
Flipper tool, 2-46
copying elements, 2-46
font attributes
Download, 9-6
Resident, 9-6
Vector, 9-7
font filters, vi
Font Manager, 9-5
Font Manager command, 9-5
fonts
adding, 9-8
Key *Draw! Plus* *equivalents of resident PostScript set,* A-1
attributes, 9-6
downloading to PostScript, 9-6
removing, 9-7
Fountain tool, 2-30
New Fill option, 12-8
fountains, 12-2
adding to color file, 12-12
See also colors
creating, 12-8
even (gradation), 12-9
grouped elements, 6-5
hiding, 5-2
linear, 12-10
log (gradation), 12-9
modifying, 12-11
multi-color rainbow effect, 8-10
PostScript Fill Options, 12-10
radial, 12-9
removing from color file, 12-12
Fountains command, 5-2
full box, 1-5
full view, 2-13
Function command (Tools Manager), 13-15

G

gap size, 11-6
gradation (fountains), 12-9
gray levels (tracing options), 11-11
grayscale images, 11-5
tracing, 11-10
grid, 5-4, 6-6
setting spacing, 5-5
snap, 5-4
spacing, 5-5
Grid command, 5-4
grid snap
turn off for tracing, 11-12
Group command, 6-4
groups, 6-5
maximum nested levels, 6-5
nesting, 6-5
guide lines, 5-5
aligning to, 6-7
moving, 2-8
position, 5-6
rotating around, 7-5
scaling relative to, 7-7
Guide Lines command, 5-5

H

halftone screen frequency, 3-14
handles, 2-2
effects of dragging (scaling), 2-6
HSB color model, 12-4
Brightness, 12-5
compared to CMY and RGB, 12-5
Hue, 12-4
Saturation, 12-5
Hue (HSB color model), 12-4

I

Icon command (Tools Manager), 13-16
Icon Editor (Tools Manager), 13-8

Icon Selector
(Tools Manager), 13-7, 13-11
icons
drawing, 13-11
Image command, 4-2, 5-1
image files, 11-1
Image menu, 4-1
image options
saving, 11-4
Image Options command, 4-2, 11-3
images
grayscale, 11-5
hiding, 5-1
line art, 11-6
loading, 4-1, 11-2
options, 4-2
tracing, 4-1
unloading, 4-2
valid formats, 11-2
IMG file format, 11-2
insufficient memory, B-1
Item Selector, 1-15
changing directory path, 1-16
choosing files, 1-17
Directory line, 1-15
editing keys, 1-16
list window, 1-15
wildcards, 1-16

J

Join Points command
(Plane tool pop-up), 2-42
junction points, 2-15

K

Key Draw! Plus Info command, B-3
keyboard commands, 1-9
keyboard shortcuts
See keyboard commands
KEYDRAW!.INI, 9-3, 9-4
KEYDRAW.INI, 13-2

L

Landscape page orientation
(Page Layout), 3-8
Landscape paper orientation
(PostScript output), 3-12
Layer Manager, 10-1
circle marker, 10-11
closing, 10-2
display markers, 10-11
displaying, 10-2
light bulb marker, 10-11
Layer Manager command, 10-2
Layer tool, 2-10, 10-1
layers, 10-1
activating, 10-3
activating with **[PgUp]**
and **[PgDn]**, 2-10
adding, 10-3
changing order, 10-4
combining into single layer, 10-5
default, 10-3
display markers, 10-11
display status saved
with file, 3-4, 10-11
displaying as overlays, 10-13
displaying selected layers, 10-12
limits on number, 10-1
printing slides, 10-7
slide background, 10-6
slide foreground, 10-7
slides, 10-6
Visible status, 10-12
leading
See line spacing
line art images, 11-6
line attributes
setting, 2-34
Line Color tool, 2-30
New Color option, 12-6
line end styles, 2-34
line screen (fountains), 12-11
line screens, 3-14
line spacing, 2-24
Auto, 2-24
Custom, 2-24
Solid, 2-24
table, 2-24
Line tool, 2-29
line width
display limited by
screen resolution, 2-33
Line Width tool, 2-33
linear fountains, 12-10
lines
adding curves, 2-19
Load command
(Color Manager), 12-15
Load command
(Tools Manager), 13-13
Load Image command, 4-1, 11-2
loading images, 11-2

Lock command, 2-39, 6-4
lost clusters, B-2

M

MAGICorp, vi
Magnifier, 2-13
  full view, 2-13
  minus (-) key, 2-13
  plus (+) key, 2-13
  zooming in on drawing surface, 2-13
  zooming out one level, 2-13
Mask command, 8-1
Mask tool (CUSTOM.TLS), C-6
masked elements, 8-1
  splitting, 8-15
memory
  dialog showing usage, B-3
  not enough to start Key Draw! Plus, B-1
memory requirements, B-1
memory-resident programs, B-1
menu bar, 1-2
menu tools, 13-4
  creating, 13-5
menus
  Combine, 8-1
  displaying, 1-8, 9-3
  drop-down, 1-9
  Edit, 7-1
  Element, 6-1
  File, 3-1
  Image, 4-1
  Options, 9-1
  pull-down, 1-9
  undisplaying, 1-9
  View, 5-1
Merge command (Color Manager), 12-15
Merge Elements command, 8-3
Merge File command, 3-3
Merge tool (CUSTOM.TLS), C-7
merged elements, 8-3
  characteristics, 8-4
  splitting, 8-15
merging files with layers, 3-3
minus (-) key
  direct entry fields, 1-12
Modify Color dialog
  displaying, 12-7, 12-12
Modify command (Color Manager), 12-7, 12-12, 12-17
Modify Layer command (Layer Manager), 10-10
modifying colors, 12-7
modifying fountains, 12-11
moiré patterns, 3-15
mouse techniques, 1-6
  click, 1-6
  double-click, 1-6
  drag, 1-6
Move command, 7-4
Multiple .GEM Files (Export command), 3-6, 10-7
Multiple-Page .GMP File (Export command), 3-7, 10-8

N

nested groups
  maximum number of levels, 6-5
New Color option (Fill Color and Line Color tools), 12-6
New command, 3-2
New Fill option (Fountain tool), 12-8
New Layer (Layer tool), 10-4
New View option (View tool), 2-12
notational conventions, viii

O

Offsets (Image Options dialog), 11-4
offsets (Page Layout dialog), 3-9
OK button, 1-13
Open command, 3-2
opening files, 3-2
Options menu, 9-1
Organize command (Tools Manager), 13-16
Output, vi
  displaying slides, 10-9
  starting, 3-18

P

Page Layout command, 3-7
page orientation, 3-8
paging files, B-2
PANTONE colors, 12-13
  loading, 12-14
paste buffer, 7-2
Paste command, 7-2
PCX file format, 4-1, 11-2
PgDn key
  activating layers, 2-10, 10-3
  direct entry fields, 1-12

PgUp key
activating layers, 2-10, 10-3
direct entry fields, 1-12
picture colors, 12-3
pixels, 11-1, 13-11
Plane tool, 2-38
selecting points, 2-38
turns off fill and lines, 2-38
plus (+) key
direct entry fields, 1-12
points
anchor points, 2-15
corner points, 2-15
deleting, 2-20
junction points, 2-15
mapping in blends, 8-8
moving with grid snap on, 5-4
selecting with Plane, 2-38
tangent points, 2-15
polygons
drawing, 2-18
pop-up menus, 1-13
pop-up sliders, 1-12
Portrait page orientation (Page Layout), 3-8
Portrait paper orientation (PostScript output), 3-12
PostScript command, 3-10
PostScript file output, 3-10
PostScript Fill Options, 12-10
PostScript fonts
Key *Draw! Plus* *equivalents,* A-1
PostScript output, 3-10
color separation, 3-13
paper orientation, 3-12
paper size, 3-12
picture scaling, 3-12
resolution, 3-14
slides, 3-13, 10-7
PostScript printers, 9-6
resident fonts, 9-6
precision (tracing options), 11-6
preferences, 9-1
restoring original set, 9-4
saved in KEYDRAW!.INI, 9-3
saving, 9-3
Preferences command, 9-1
process colors, 12-4
pull-down menus, 1-9

Q

Quill tool, 2-16
adding curves to lines, 2-19
adding lines to curves, 2-19
closing elements, 2-18
drawing curves, 2-17
drawing polygons, 2-18
pointer forms, 2-16
re-opening curves, 2-20
Quit command, 3-18
quitting **Key *Draw! Plus***, 3-18

R

radial fountains, 12-9
radio buttons, 1-10
Rectangle Options dialog, 2-27
Rectangle tool, 2-26
rectangles
drawing, 2-26
drawing from center, 2-27
Redraw command (Layer Manager), 10-14
Redraw Speed (Global Preferences dialog), 9-3
registration marks (Page Layout dialog), 3-8
registration marks (PostScript Output dialog), 3-16
Remove Layer command (Layer Manager), 10-10
Repeat command, 7-8
Reset command (Color Manager), 12-13, 12-15
Reset command (Tools Manager), 13-13
resident fonts, 9-6
Reverse Curve Direction (Blend Elements dialog), 8-8
RGB color model, 12-4
compared to CMY and HSB, 12-5
rolling pin tool, 2-47
root directory, 1-16
Rotate command, 7-4
Rotate Grow tool (CUSTOM.TLS), C-7
Rotator tool, 2-35
rounded rectangle
drawing, 2-26
Rounded Rectangle tool, 2-28
rulers, 5-3
Rulers command, 5-3

S

Saturation (HSB color model), 12-5
Save As command, 3-4
Save As command (Color Manager), 12-16
Save As command (Tools Manager), 13-14
Save command, 3-4
Save command (Color Manager), 12-16
Save command (Tools Manager), 13-14
Save Preferences command, 9-3
saving files, 3-4
  backup files, 3-4
Scale command, 7-6
Scaling (Image Options dialog), 11-4
scaling elements, 2-5
Screen Angle (PostScript Fill Options dialog), 12-11
screen angle (PostScript output), 3-14
screen components, 1-1
  drawing surface, 1-3
  full box, 1-5
  menu bar, 1-2
  scrollers, 1-4
  size box, 1-5
  surround, 1-3
  title bar, 1-2
  toolbox, 1-2
  window, 1-1
  workspace, 1-3
Screen Function (PostScript Fill Options dialog), 12-10
Screen Resolution (PostScript Fill Options dialog), 12-11
scroll bars, 1-5
scrollers, 1-4
  arrows, 1-5
  scroll bars, 1-5
  sliders, 1-5
Select All command, 2-4, 7-3
Selected Elements (Export command), 3-6
selecting elements, 2-9
selecting overlapping elements ([F4] key), 2-4
selection frame, 2-2
Selector Options, 2-8
Selector tool, 2-2
  using other tools as, 2-9
Send to Back command, 6-1
Set Grid command, 5-5
Set Guide Lines command, 5-6
Shift key
  direct entry fields, 1-12
  pop-up sliders, 1-13
  Shift-Del to clear fields, 1-11
simple curve, 2-17
simple curves
  drawing, 2-17
Single-Sheet .CEM File (Export command), 3-6
size box, 1-5
Sketch tool, 2-20
sliders, 1-5
slides, 10-6, 10-13
  background layer, 10-6
  creating, 10-6
  foreground layer, 10-7
  limit on length of filename (Export), 3-7
  printing, 10-7
  screen displays, 10-9
Slides (Export command), 3-5, 10-7
Slides command (Layer Manager), 10-13
Smooth command (Plane tool pop-up), 2-43
Snap to Grid command, 5-4
Solid (Create Text Item dialog), 2-24
Sort by Name command (Color Manager), 12-18
Split Element command, 8-15
Split Point command (Plane tool pop-up), 2-42
spot colors, 3-6
Spot Colors (Export command), 3-5
squares
  drawing, 2-26
  drawing from center, 2-27
  screen distortion, 2-27
stacks, 1-7, 10-1
standard tools, 13-3
  creating, 13-5
status line, 5-3
Status Line command, 5-3
StatusRuler tool (CUSTOM.TLS), C-7
Step in Back command, 6-2
Step in Front command, 6-2
surround, 1-3
Symbol characters not displayable in text window, 2-26, 2-27

Symmetric command (Plane tool pop-up), 2-43

T

tangent lines, 2-17, 2-40
tangent points, 2-15, 2-17, 2-40
text
. converting to curves, 8-14
editing keys (table), 2-25
group after converting to curves, 8-15
line spacing, 2-24
masking with, 8-3
merging with, 8-5
placing along a path, 8-11
PostScript printers, 9-6
text along a path, 8-11
converting to curves, 8-14
splitting, 8-15
Text Along Path command, 8-11
text characters
creating with Merge, 8-5
Text tool, 2-21
Thumbtack, 2-45
aligning to, 6-7
rotating around, 7-5
scaling relative to, 7-7
TIFF file format, 4-1, 11-2
TIFF files
valid formats for tracing, 4-2
TIFF preview
EPSF output, 3-11
title bar, 1-2
To App command, 3-16
To Curve command (Plane tool pop-up), 2-42
To Curves tool (CUSTOM.TLS), C-7
To Line command (Plane tool pop-up), 2-42
To Output command, 3-18
toggles, 5-1
Tool Attributes dialog (Tools Manager), 13-6
tool icons
selecting, 13-7, 13-11
toolbox, 1-2
arranging tools, 13-3
changing default, 13-2
changing size, 13-3
custom, C-1
See also custom toolboxes
default, 13-2
hiding, 2-2, 5-6
low-resolution systems, C-3
Toolbox command, 2-2, 5-6
tools
Circle, 2-28
container, 13-4
creating, 13-5
creating container, 13-5
creating menu, 13-5
creating standard, 13-5
drawing icons, 13-11
Fill Color, 2-30
Flipper, 2-46
Fountain, 2-30
Layer, 2-10
Line, 2-29
Line Color, 2-30
Line Width, 2-33
Magnifier, 2-13
maximum allowed in toolbox, 13-5
menu, 13-4
moving, 13-3
Plane, 2-38
Quill, 2-16
Rectangle, 2-26
Rotator, 2-35
Rounded Rectangle, 2-28
Selector, 2-2
Sketch, 2-20
standard, 13-3
Text, 2-21
Thumbtack, 2-45
Trace, 2-21
View, 2-11
tools files, 13-2
Tools Manager, 13-1
Icon Editor, 13-8
Tools Manager command, 13-1
trace segments, 11-8
Trace tool, 2-21
TRACE.TLS, C-8
tracing
advancing or backing up, 11-10
autotrace contrast, 11-11
autotrace options, 11-5
autotrace precision, 11-6
autotrace techniques, 11-7
autotracing, 11-1
autotracing—typical steps, 11-5
canceling autotrace, 11-10
changing autotrace

precision, 11-10
direction of autotrace line, 11-7
gray levels, 11-11
grayscale images, 11-10
hand tracing, 11-2, 11-12
image frame, 11-2
image options, 11-3
loading the image, 11-2
saving image options, 11-4
stopping autotrace, 11-8
trace segments (part of the image), 11-8
valid image file formats, 4-1
valid image formats, 11-2
trim marks (Page Layout dialog), 3-8
trim marks (PostScript Output dialog), 3-15
typefaces
See fonts

U

undercolor removal, 3-15
Undo command, 7-1
Ungroup command, 6-6
Unload Image command, 4-2
Unlock command, 6-4

V

vector files, 11-1
View menu, 5-1
View Tool, 2-11
views
defining, 2-12
virtual expanded memory, B-2
Visible command (Layer Manager), 10-12
Visible Layers (Export command), 3-5

W

wildcards, 1-16
window, 1-1
moving, 1-3
Wombat characters not displayable in text window, 2-26, 2-27
workspace, 1-3

Z

zooming, 2-13

KEY Draw! Plus

Utilities Guide

softkey

Changing The Way America Buys Software

Table of Contents

Preface

HiJaak File Conversion Utility **1-1**
File Format Types 1-1
Destination File Types 1-1
Starting HiJaak 1-2
HiJaak Interface 1-3
Using HiJaak Help 1-6
Converting Files: Overview 1-7
Converting Files: Step by Step 1-7
PostScript Conversion 1-13
HiJaak Menus 1-15

Font Filters **2-1**
Running Font Filters 2-1
Bitstream Fontware Conversion 2-3
Adobe Type 1 Conversion 2-7
Fontographer Conversion 2-8
Duplicate Font IDs 2-9

Output **3-1**
Printing a **Key *Draw! Plus*** File 3-1
Output Screen 3-2
Using Output 3-2
Output Lists 3-4
Output to the Screen 3-5
Menus 3-6
File Menu 3-7
Options Menu 3-7
Preferences Menu (Screens) 3-10
Preferences Menu (Printers and Plotters) 3-11
Preferences Menu (Cameras) 3-13
Output Menu 3-15

MAGICorp 4-1
MAGICorp Service 4-1

Symbol File Conversion 5-1
Using SYF2GEM 5-1
Quitting SYF2GEM 5-4
Converted Symbol Files 5-4

Key *Draw! Plus* Character Set A-1

CNF Files B-1
Modifying CNF files B-1
Hewlett-Packard Soft Font Drivers B-2
PostScript Drivers B-3

Font ID Numbers C-1

Index Index-i

Preface

This book is your guide to the utilities for **Key *Draw! Plus,*** Release 2.01:

- HiJaak®
- font filter conversion programs
- Output
- MAGICorp® slide and print service
- SYF2GEM symbol file conversion program

The **Key *Draw! Plus*** Utilities Guide also includes appendices that illustrate the **Key *Draw! Plus*** international character set, describe how you edit the .CNF files you use for printing, and list the font ID numbers for various typefaces.

HiJaak File Conversion Utility

HIJAAK is a utility that converts files created by other applications to a file format that you can open or merge in **Key *Draw! Plus***. You can also use HiJaak to convert **Key *Draw! Plus*** files to formats that can be used with other applications, or for raster fax card transmission.

This chapter contains information about the following:

- basic background on HiJaak and file conversion;
- how to start and use HiJaak;
- the HiJaak menus and commands.

If you selected the default destination directory during the **Key *Draw! Plus*** Setup program, HiJaak was installed in the \KEYDRAW!\CONVERT directory. Otherwise, HiJaak was installed in the destination directory you specified during Setup.

File Format Types

The two basic file formats you can convert are shown in the table below.

- *Vector* format stores mathematical descriptions of the lines and curves that make up the shapes and characters in the file. PostScript® is a vector format that uses the PostScript page description language.
- *Raster* (also known as *bit image* or *bit-mapped*) format stores the shapes and characters in the file as patterns of dots.

source format		destination format	
vector	GEM, CGM, PIC, WMF, DXF	GEM, CGM, PIC, WMF	vector
		EPS, viewable EPS	PostScript
		IMG, PCX, TIFF	raster

NOTE: To convert files so that you can open them in **Key *Draw! Plus***, *always choose GEM as the destination file format.*

Destination File Types

Several of the destination file formats are associated with popular software applications. HiJaak refers to a file format as having the "flavor" of a particular application. For example, you could convert your **Key *Draw! Plus*** file to the WordPerfect flavor of the CGM format. When converting a file for use with a particular software application, select that application in the destination options dialog or, if the

application is not listed, select a compatible application.

destination type	available application formats
GEM	**Key *Draw! Plus*** 1.0, **Key *Draw! Plus*** 2.0, Draw, Presentation Team™ 2.0, Ventura
WMF	Arts and Letters, PageMaker, Pixie, Ventura
CGM	Applause II, Arts and Letters, CALS, Corel, Designer, Draw Applause, Freelance, Harvard Graphics, PageMaker PC, Pixie, WordPerfect
TIFF	Ami, **Key *Draw! Plus*** 2.0, Arts and Letters, Corel, Designer, Freehand Mac, Freelance, Illustrator Mac, PageMaker Mac, PageMaker PC, Paintbrush, PaintShow, Quark Mac, QuickTrace, ScanPro, ScanXpress, Ventura, Word Mac, Word PC, Word Windows, WordPerfect Mac, WordPerfect PC

Starting HiJaak

You can start HiJaak from the operating system command line or from within **Key *Draw! Plus***.

From the Command Line

To start HiJaak from the command line,

1. Switch to the disk drive and directory in which you have installed HiJaak. For example, if HiJaak is on drive D and you chose the default destination directory during Setup, these two commands take you to the directory in which it is installed:

   D: ↵

   CD \KEYDRAW!\CONVERT ↵

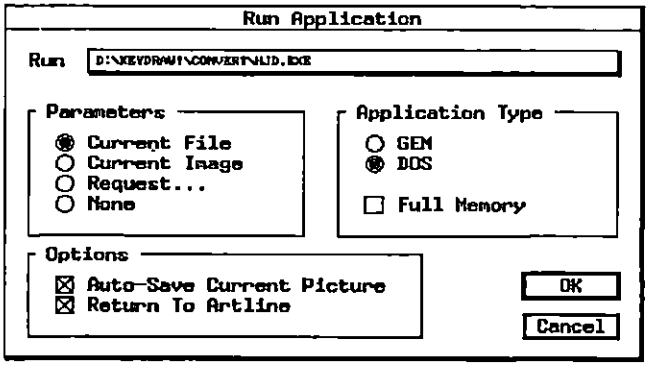
2. Type the following command to start HiJaak:

   HJD ↵

From Key *Draw! Plus*

To start HiJaak from Key *Draw! Plus*,

1. Display the File menu and choose the **To App** command. **Key *Draw! Plus*** displays the Run Application dialog (facing page).
2. Click on the Run button to display the Item Selector. Change the directory in the Item Selector to \KEYDRAW!\CONVERT and double-click on HJD.EXE.



3. Set the Parameters radio button to None. You can select files only within HiJaak; you cannot pass a filename from **Key *Draw! Plus***.
4. The Application Type should be DOS. If it is currently set to GEM, click on the DOS button.
5. Set the Options (Auto-Save Current Picture and Return to **Key *Draw! Plus***) as you want them.
6. Click on OK to exit the Run Application dialog. The screen goes to black for a moment before HiJaak starts.

HiJaak Interface

The HiJaak interface consists of menus and dialogs. You choose commands from the menus, and you choose file names and set options in the dialogs.

You can work with either a mouse or the keyboard when in HiJaak.

Using a Mouse

> If you do not have a mouse driver loaded, HiJaak displays a dialog to that effect at startup. Simply exit the dialog and use the keyboard.

To use a mouse with HiJaak, you *must* load a Microsoft®-compatible mouse driver file like MOUSE.COM.

If you have a serial mouse, you might still be able to configure it for use with MOUSE.COM. Check your mouse documentation. You can load MOUSE.COM from the command line or load it automatically at startup. To do the latter, adding "MOUSE" to your AUTOEXEC file. Make sure that MOUSE.COM is located in one of the directories in your path.

If you load MOUSE.COM, applications that have been using the mouse as a serial device will no longer be able to use it. You must do one of the following:

- You can reconfigure all other applications that use the mouse for MOUSE.COM. This might require simple editing of a batch file or complete re-installation.
  To reconfigure **Key *Draw! Plus*** for MOUSE.COM, run ALSETUP, located in the root directory of the drive on which you installed **Key *Draw! Plus*.**
- You can remove the mouse driver from memory before you run other applications. Again, check your documentation to see if there is a command that removes the driver from memory. If not, you might be able to use a utility that marks and releases blocks of memory.
  In some cases you can only remove the mouse driver from memory by turning off and restarting your computer. In that event, the first option of reconfiguring your applications might be preferable.

These are the mouse techniques you use in HiJaak:

- To choose a command, first click on the menu name to display the menu, then click on the command name.
- To select a file from a list box, double-click on its filename.
- To choose an option, click on it.
- To exit a dialog, click on an exit button or the close box in the upper left corner. Clicking on the close box is the equivalent of clicking on the dialog's Cancel button.
- To scroll a list box, click on the arrows, drag the slider, or click in the gray scroll bar on either side of the slider.

Using the Keyboard

You can use the keyboard to display menus, make selections in dialogs, access HiJaak's Help, and so on.

HiJaak divides its dialogs into what it refers to as *areas of focus*. Each area of focus is identified by a title containing one letter in a contrasting color. For example, in the SELECT FILE TO BE CONVERTED dialog, one area of focus is called "Type," with a white "T."

These are the keyboard techniques you use in HiJaak:

- To move to a specific area of focus, press the **[Alt]** key as you type the area's highlighted letter. For example, to switch to the Type area, type **[Alt] [T]**.
- To move from one area of focus to the next, press the **[Tab]** key. To move to the previous area of focus, press **[Shift] [Tab]**.
- To select items from a list box, follow these steps:

➢ Move the highlight to the list box from which you want to select.

➢ Move the highlight bar in the list. box by pressing the up-arrow or down-arrow key or, for larger jumps, the **[PgUp]** or **[PgDn]** key.

➢ Select a highlighted type from the Type box by pressing ↵. Select a highlighted filename by pressing **[Alt]** **[S]**.

- To change directories, do either of the following:
  ➢ Type a full pathname into the text field in the center of the dialog, and press ↵.
  ➢ Move the highlight bar in the file list box to a directory name (indicated by square brackets—[PIX], for example) and press ↵. To go up one level in the directory path, highlight the [..] entry and press ↵.
- To get help on topics, follow these steps:
  ➢ Press **[Alt]** **[H]**, or click on the Help button at the bottom of a dialog.
  ➢ Press **[Alt]** **[R]** to move to the Related Topics area and then use the arrow keys to highlight a Help topic. Press **[Alt]** **[S]** to select the topic.

Do *not* press ↵ to select a topic. If you do, you will exit the Help system without selecting anything.

- To exit a dialog and continue the conversion process, **[Tab]** to the OK button and then press ↵.
  To exit a dialog and return to the previous dialog, press **[Esc]**.

HiJaak Keyboard and Mouse Functions

The following table describes the mouse and keyboard techniques you use in HiJaak.

HiJaak Keyboard and Mouse Functions	
ACTION	**FUNCTION**
Tab	Moves cursor to next area of focus
[Shift] **[Tab]**	Moves cursor to previous area of focus
Enter	Selects types from Type list box; puts path changes into effect; selects the OK button when it is highlighted
Esc	Exits dialog and returns to previous dialog; same as selecting Cancel
Backspace	Removes character to left of text cursor
Cursor keys	Use the arrow keys and **[PgUp]**, **[PgDn]**, **[Home]**, and **[End]** to move the cursor in an edit field (this is used for scrolling list boxes)

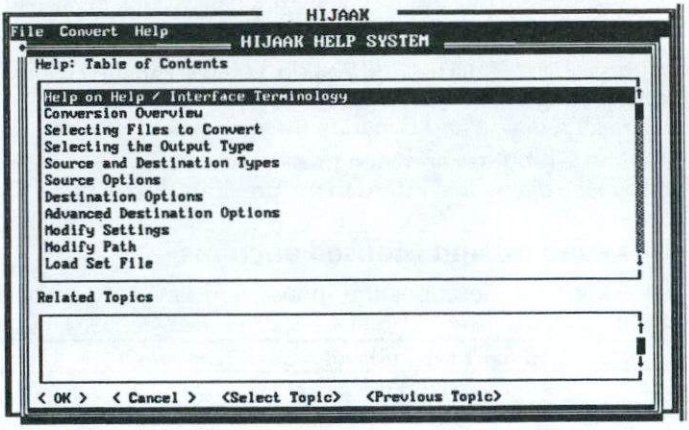
ACTION	FUNCTION
Alt + key	Moves cursor to area of focus where letter matches [Alt]-key sequence you typed
Click	Selects a filename or area of focus, executes a button
Double-click	Same as choosing a Select or Deselect button. (This is also used for changing the path above list boxes)
Press and hold	On a scroll arrow—continuously scrolls window text
Drag	On a scroll bar—scrolls window text rapidly

Using HiJaak Help

The HiJaak Help system provides complete information about commands and dialog options. Use the Help system whenever you have a question about the technical aspects of file conversion or about the HiJaak interface.

To use HiJaak Help,

- Click on **Help** in the menu bar to display the Help Table of Contents dialog.
  Double-click on a topic in the Help Table of Contents to get help for that topic.



- To get help for specific dialogs, click on the dialog's Help button, or press **[Alt] [H]**.
- To exit Help, press **[Esc]**, click on Cancel, or press ↵.

Each Help screen has two windows. The top window displays the Help topic or Help information; the bottom window displays related Help topics. To activate the Related Topics window, click on it or press **[Alt] [R]**. To select a topic, click on it or press **[Alt] [S]**. To see text or topics that might not be visible, click on the scrollers at the side of each window or press **[PgUp]** or **[PgDn]**.

Converting Files: Overview

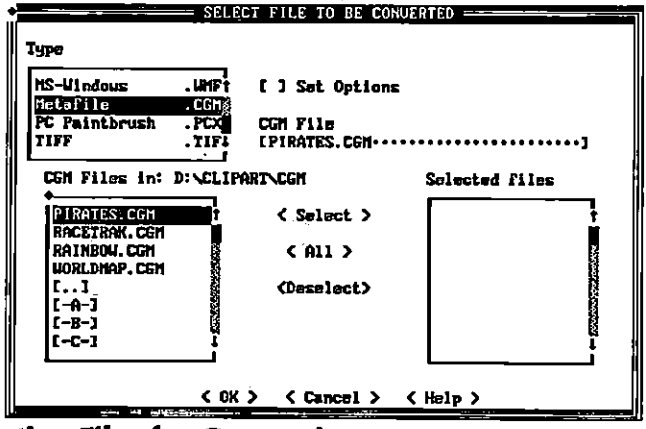
The file conversion process consists of four basic steps, two of them optional:

1. Select the file you want to convert from the SELECT FILES TO BE CONVERTED dialog.
2. (Optional) Set the source options, such as fonts, by clicking on the Set Options check box.
3. In the DESTINATION FILES dialog, specify the destination file type. You can also specify the names and destination directories of the converted files.
4. (Optional) Set destination (or output) options, such as file type format ("flavor"), height, width, and aspect ratio. You can also set "advanced" options, including the choice of allowing color or forcing the converted picture to grayscale or black and white.

HiJaak converts the source file you selected to the destination file type and name you specified. On-screen messages indicate when the file conversion is complete. An option is available for you to save the process log as a file.

Converting Files: Step by Step

The sections beginning on the next page describe the file conversion process in detail.

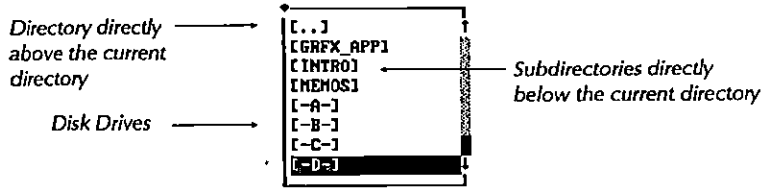


Selecting Files for Conversion

The SELECT FILE TO BE CONVERTED dialog is the first step in the conversion process. To display the dialog, choose **Convert** from the menu bar.

To select files to be converted,

1. Choose the file type you want in the Type list box.
2. Set the path for the Files list box so that it lists the files you want to convert. You can set the path either by choosing directory or drive names from the Files list box or by editing the File text field. The Files list box uses the following notation:



The Files list box title line tells you what kind of files are listed (for example, "CGM Files in:") and gives the full path of the current directory.

3. To select a single file, double-click on its name in the list box, or highlight it and press **[Alt]** **[S]**. To select all files of the specified type in the current directory, click on All or press **[Alt]** **[A]**.
4. To select additional files, repeat steps 1, 2 and 3.

To de-select files,

1. Click on the filename in the "Selected files" list box, or press **[Alt]** **[L]** and then **[PgUp]** or **[PgDn]** to highlight the name of the file you want to delete.
2. Click on Deselect or press **[Alt]** **[D]**.

To set options,

Click on Set Options to place an X in the check box. The SOURCE OPTIONS dialog (see the next page) appears after you exit the SELECT FILE dialog. If there is no X in the check box, the options dialog does not appear.

> In most cases, you can skip the source options. See "Fonts in Converted Files" on the next page.

To exit the SELECT FILE dialog,

Click on OK or press ↵ to continue the conversion. To cancel the current settings and exit the dialog, click on Cancel, click on the "close" diamond at the top left corner of the dialog, or press **[Esc]**.

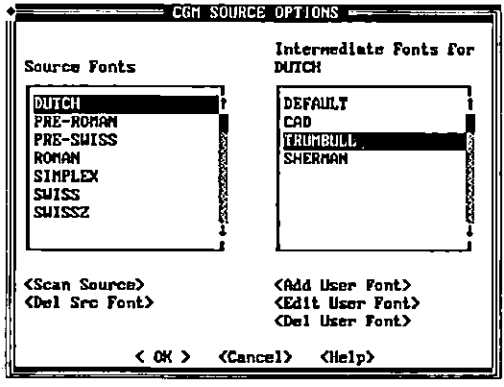
Multiple File Type and Path Conversions

By repeating the steps for selecting files, you can choose files of various formats and from various directories.

For example, you can choose IMG files from one directory, PCX files from another, and GEM files from yet another. You can also select files all of one type, but from different directories. Managing multiple conversions of this kind can get confusing, however, and you might find it easier to run separate conversions for files of a given type or from different directories.

Source Options Dialog

In the SOURCE OPTIONS dialog you can set various characteristics for the file conversion. The appearance of this dialog varies according to whether you selected a raster or vector file type. The HiJaak Help system describes the options available in this dialog.



Make your selections in the dialog and click on OK or press ↵ to accept the settings and display the DESTINATION FILE(S) dialog. If you click on Cancel or press **[Esc]**, you return to SELECT FILES dialog.

Fonts in Converted Files

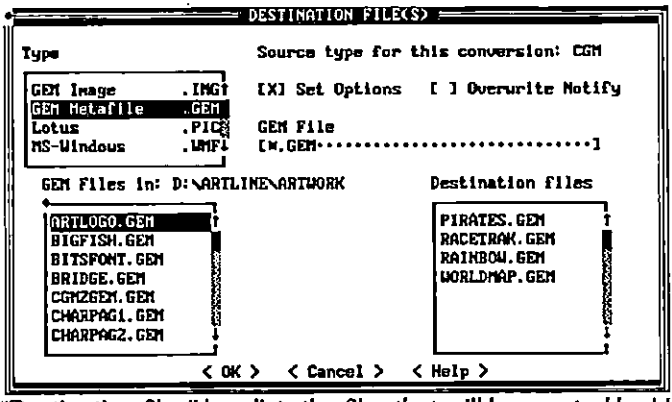
When converting files that contain editable text to an **Key *Draw! Plus***-compatible format, you can skip source options. Instead, when you open the converted file in **Key *Draw! Plus***, an alert gives you the option of substituting fonts or converting the text to curves. Choose the substitution option.

If, when you open the file in **Key *Draw! Plus***, the substituted font is not what you want, you can change it. Select a text string, double-click on it to re-open it, and use the Create Text Element dialog to assign another **Key *Draw! Plus*** font to the text. Do this for each text string you want to change.

Choosing Destination File Format

When you exit the SELECT FILES or SOURCE OPTIONS dialog, HiJaak displays the DESTINATION FILES dialog. Use this dialog to specify the file type to which you want to convert the source file (or files).

The Type box lists the available destination file formats. The Files box (lower left) lists the files of the selected format in the destination directory. To make sure your converted files will not overwrite files in this directory, scroll the list or use the Overwrite Notify option.



The "Destination files" box lists the files that will be created by HiJaak in the destination directory.

By default, the converted file has the same name as the source file, but the extension of the destination format.

To specify a destination file,

1. Choose a destination file type in the Type list box.
2. From the Files list box, choose the directory where you want to place the converted file or enter the full path of the directory in the File text field.
3. Choose Overwrite Notify if you want to be prompted when a file with the same name as the destination file already exists.

To rename a file or set a new path,

1. Select the file from the "Destination files" list box.
   Keyboard: Press **[Alt] [D]** to move to the "Destination files" list box and then scroll to highlight the file you want.
2. Type the new name and/or path in the File text field.
   Keyboard: Press **[Alt] [F]** to move the cursor to the text field.
   Edit the file and/or path name and press ↵ to enter the new name into the "Destination files" list box.

To set options,

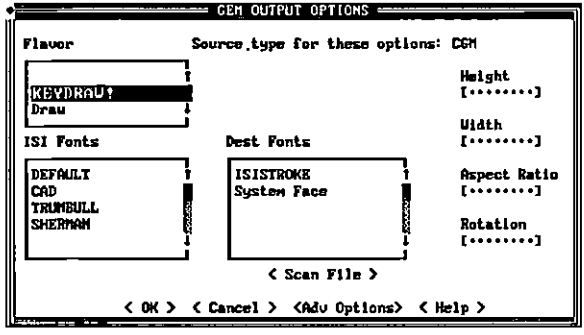
Click on the Set Options button or press **[Alt]**-**[O]** to place an X in the check box. The destination options dialog appears after you exit the DESTINATION FILES dialog. If there is no X in the check box, the options dialog does not appear.

To exit the dialog,

Click on OK to accept the file names and settings, or click on Cancel to return to the previous dialog.

Destination Options Dialog

In the destination options dialog, you can set options for the converted file, notably the application-specific destination file format. The appearance of the destination options dialog (including the name in the title bar) varies according to the destination file type you selected.



Select the destination file format. The HiJaak Help system describes the other options available in this dialog.

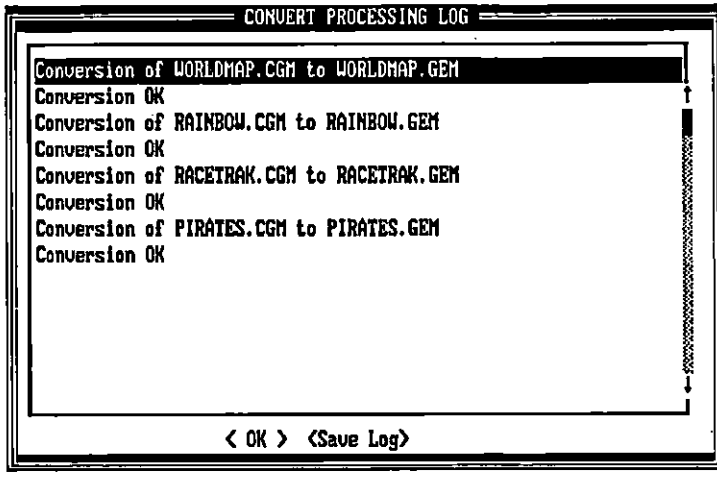
If you select the Advanced Options button, the DESTINATION ADVANCED OPTIONS dialog appears (see the next page). Otherwise, the actual file conversion begins.

Advanced Destination Options

In the advanced destination options dialog, you can set additional options for the file conversion. The appearance of the advanced options dialog (including the name in the title bar) varies according to the destination file type you selected. The HiJaak Help system describes the options available in this dialog.

Convert Processing Log Dialog

After the conversion is complete, the CONVERT PROCESSING LOG dialog appears. This dialog notifies you that the conversion is complete and displays the names of the source and destination files.



To save a log of the conversion, click on the Save Log button. (Keyboard: press **[Tab]** to move the cursor to the Save Log button, and then press the spacebar.) The log (an ASCII file with the extension LOG) names the source and destination files. It is saved to the same directory in which the HiJaak program file is located.

Click on OK or press ↵ to exit and return to the SELECT FILE TO BE CONVERTED dialog.

Exiting HiJaak

To exit HiJaak, press **[Esc]** to clear any dialogs from the screen, and then choose **Exit** from the File menu (keyboard: press **[Alt]** **[F]** plus **[X]**).

If you started HiJaak from **Key *Draw! Plus***, you return to **Key *Draw! Plus*** if you chose the Return to **Key *Draw! Plus*** option in the Run Application dialog. If you did not choose this option, you return to the operating system command line.

If you started HiJaak from the operating system command line, you return to the command line.

PostScript Conversion

Using HiJaak, you can convert your **Key *Draw! Plus*** GEM files (or files in other source formats) to encapsulated PostScript (EPS) formats that can be opened in Adobe Illustrator, loaded into frames in Ventura Publisher, or copied to a PostScript printer.

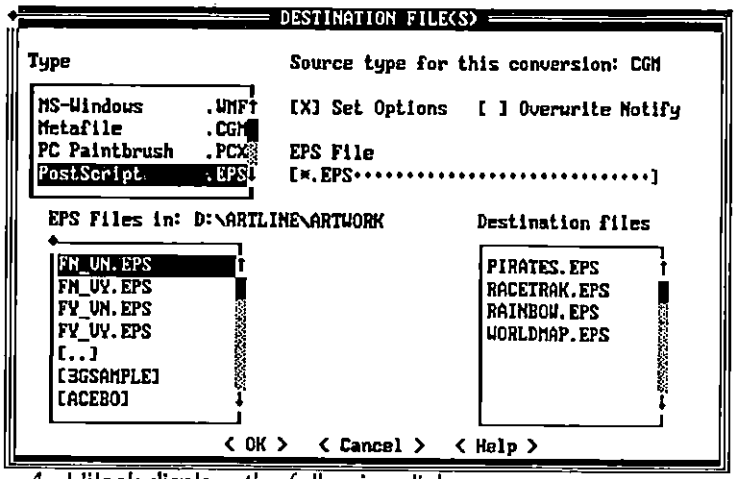
One reason for such a conversion is to create Illustrator-compatible clip art from your **Key *Draw! Plus*** files.

The steps required for converting to PostScript are the same as for other conversions, with the destination options determining the Illustrator, Ventura, or printer compatibility of the converted files.

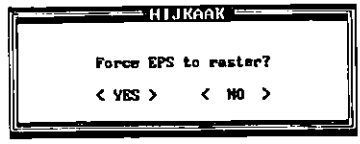
NOTE: Because the EPSF PostScript option in **Key *Draw! Plus*** *produces files that can be loaded into frames in Ventura, the principal reason for using HiJaak to convert GEM files to Ventura-compatible EPS files would be to convert a large number of files at one time.*

To convert GEM files to PostScript,

1. Start HiJaak.
2. In the SELECT FILE TO BE CONVERTED dialog, select the files you want to convert to PostScript. Do not check the Source Options box.
3. In the DESTINATION FILE(S) dialog, select PostScript as the destination type, set the filenames and path for the converted files (or take the default), and choose Set Options.



4. HiJaak displays the following dialog:



The answer to this question is always "NO." Click on NO and then OK.
From the keyboard, press the **[Tab]** key to highlight the NO button. (On a color screen, the angle brackets around the word "NO" appear in a different color from the text.) Press the spacebar to choose NO and exit the dialog.

5. In the EPS Destination Options dialog, set the Form Feed and Viewable options according to the guidelines that follow on the next two pages. To start the conversion, click on OK. If you are using the keyboard, press the **[Tab]** key until the OK button is highlighted, and press ↵ to exit the dialog and start the conversion.

EPS Destination Options

The Viewable option controls the visibility of the picture in Adobe Illustrator and Ventura Publisher. To toggle the Viewable option, click on it or press **[Alt] [V]**.

The Form Feed option creates a file that can be printed directly to a PostScript printer. To toggle the Form Feed option, click on it or press **[Alt] [F]**.

Adobe Illustrator Conversion

By default, HiJaak creates encapsulated PostScript files with the EPS file extension. Adobe Illustrator can open PostScript files with either of two extensions: EPS or AI.

- To create an Illustrator-compatible file with the EPS extension, toggle the Viewable option ON (checked).
- To create an Illustrator-compatible file with the AI extension, toggle the Viewable option OFF (not checked).

To change the file extension, follow the instructions on page 1-16.

In either case, you can leave Form Feed OFF (not checked).

Ventura Publisher Conversion

Either EPS file type (viewable or non-viewable) can be loaded into a frame in Ventura. The setting of the Viewable option determines what you see in the frame: the picture itself or an X showing the picture's location.

- If the Viewable option is toggled ON (checked), you see the picture. HiJaak creates a TIFF header in the converted EPS file, and Ventura makes a separate IMG file from the TIFF header. What you see in the Ventura frame is actually the IMG file.
- If the Viewable option is toggled OFF (not checked), you see an X in the frame, indicating where the picture sits within the frame.

PostScript Printer Files

You can create a PostScript file that you print directly on a PostScript printer using the operating system's **Copy** command. To create this kind of file, toggle the Form Feed option ON (checked) and the Viewable option OFF (not checked).

HiJaak Menus

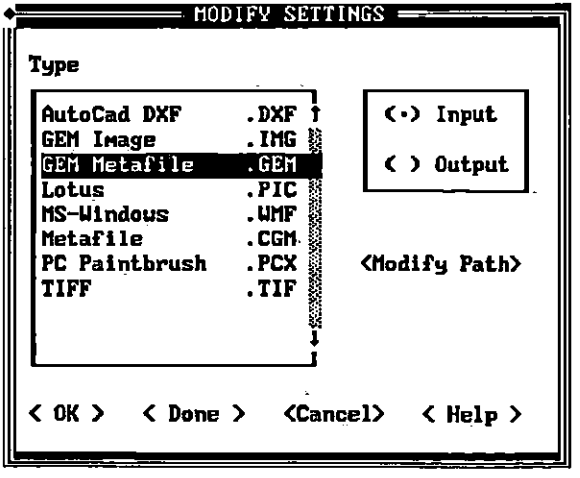
File Menu

The HiJaak File menu commands set default paths, load or save the settings file, exit HiJaak, and display information about HiJaak.

To choose a File menu command with the keyboard, press **[Alt] [F]** plus the contrasting color (or underscored) letter in the command name. Thus, the **Exit** command is **[Alt] [F]** plus **[X]**.

Modify Settings

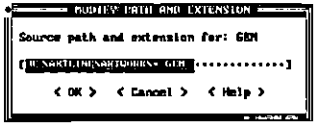
This command displays the MODIFY SETTINGS dialog, in which you can specify the default options and paths for input and output files. You can also save these options and paths for use later on. See the descriptions of the **Load Set File** and **Save Settings As** commands.



Using **Modify Settings**, you can specify a default path and options for each source file type and a source path and options for each destination file type.

To set options:

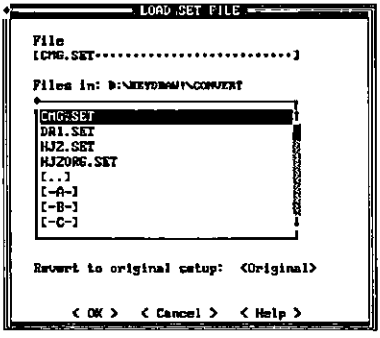
1. Choose the **Modify Settings** command from the File menu.
2. To set source options, select the source file type, click on Input, and press ↵. HiJaak displays the appropriate source options dialog, which you then fill out and exit.
3. To select a path for the source file type, select Modify Path while Input is still selected. (Keyboard: press **[Alt] [P]**.)



4. To set destination options, select the destination file type, click on Output, and press ↵. HiJaak displays the appropriate destination options dialog, which you then fill out and exit.
5. To select a path for the destination file type, select Modify Path while Output is still selected. (Keyboard: press **[Alt] [P]**.)
6. Repeat steps 2 through 5 for any additional source or destination formats.
7. Click on OK (or press Enter) to exit the dialog.

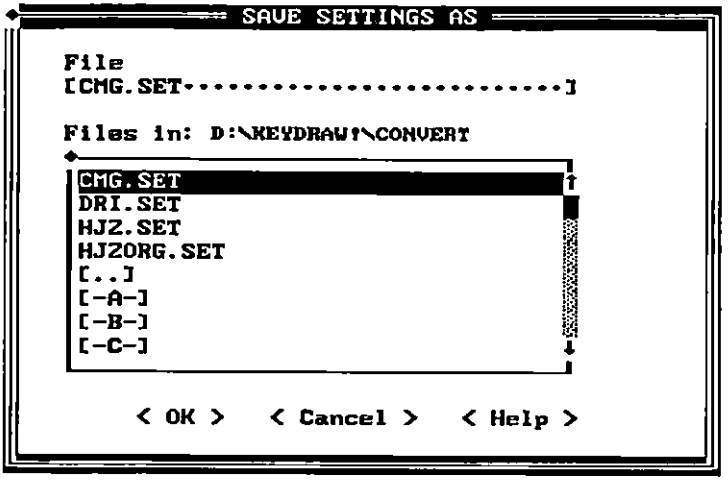
Load Set File

This command displays a dialog so you can load a HiJaak settings file, a record of your selections for source and destination paths and options. For example, you could have a settings file that converts CGM with one set of options and another file that converts CGM files with a different set of options. If you previously changed the settings file, select the "Original" option to return to the original file.



Save Settings As

This command saves a file containing your selections in the MODIFY SETTINGS dialog. You can save the settings file under a new or an existing file name. Type the name in the edit field and then click on OK.



Exit

If you started HiJaak using the **Key *Draw! Plus* To App** command, you return to **Key *Draw! Plus***. If you started HiJaak from the operating system command line, you exit to the command line.

About

This command displays the ABOUT HIJAAK dialog.

Convert

The **Convert** command (keyboard: **[Alt] [C]**) displays the SELECT FILE TO BE CONVERTED dialog.

Help

The **Help** command (keyboard: **[Alt] [H]**) displays the table of contents for HiJaak Help.

Font Filters

This chapter describes **Key *Draw! Plus***'s *font filters*, special programs that create fonts in the **Key *Draw! Plus*** AF4 format from files in these formats:

- Bitstream® Fontware™ PFA
- Adobe® Type 1 PFB
- Fontographer® PFA

There are three font filters, each with a name intended to help you remember its function.

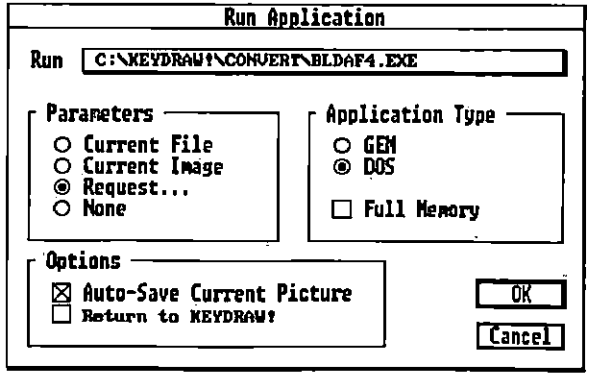
- BLDAF4.EXE ("build AF4") converts Bitstream Fontware PFA files.
- TP12AF4.EXE ("Type 1 to AF4") converts Adobe Type 1 PFB files.
- FGF2AF4.EXE ("Fontographer to AF4") converts Fontographer PFA files.

Running Font Filters

You can run font filters from the operating system command line or by using the **To App** command in **Key *Draw! Plus***. Use the command line if the path information and any parameters will be more than forty characters long.

To Use the To App Command:

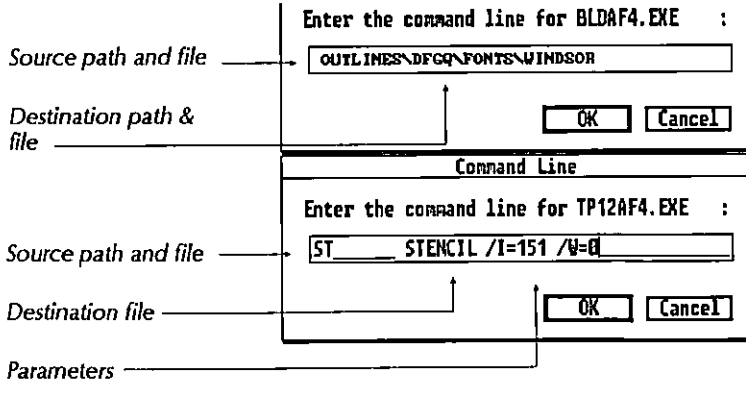
1. Choose the **To App** command from the File menu.



2. In the Run Application dialog, click on the Run button to display the Item Selector. Then follow these steps:

- ➢Open the KEYDRAW! directory, and then open the CONVERT subdirectory.
- ➢Double-click on the filename of the filter you want (see illustration below) to place it in the Run box.

3. Select the following options in the Run Application dialog:
   - ➢Request (Parameters)
   - ➢DOS (Application Type)
   - ➢Auto-Save Current Picture—if you want to save a picture currently displayed in **Key *Draw! Plus*** before the font conversion begins
   - ➢Return to **Key *Draw! Plus*—**if you want to return to **Key *Draw! Plus*** after the fonts are converted
4. Click on OK to exit the Run Application dialog and continue to the Command Line dialog.
5. In the Command Line dialog, type the font conversion information in the following order (left to right):
   - ➢source path and/or filename
     Enter the full path (including drive ID, if the font file is on another drive) and filename for the PostScript font. If the font file is in the same directory as the filter program, you need enter only the font filename.
     You do not have to include the file extension, but you must type a space after the source path.
   - ➢destination path and/or filename
     Enter the full path and filename for the AF4 font you are generating. If you do not specify a path, the file will be created in the same directory as the font filter. If you do not specify a filename, the file will have the same name as the source file.



➢ parameters
Enter any parameters for font ID or weight. The parameters are described in the sections on the individual filter programs.

6. Click on OK to convert the font. You are prompted throughout the conversion process.

Bitstream Fontware Conversion

> When generating Fontware files, set up the control panel for PostScript printer fonts only. You do not need to create screen fonts.

You can generate **Key *Draw! Plus*** fonts from either of two varieties of the Bitstream Fontware program:

- Versions 1.2 or 2.0 of Fontware, provided with applications like **Key *Draw! Plus*** or GEM Desktop Publisher
- others—provided with applications like Xerox Ventura Publisher

This section describes the steps for generating **Key *Draw! Plus*** fonts with both types of Fontware.

Files Required for Generating Fonts

BLDAF4 uses three ingredients in generating each **Key *Draw! Plus*** font:

- PFA file
  The ASCII PostScript file containing the character set description. This file is required.
- font information
  This information—the font ID and font weight—can be passed to BLDAF4 from a font information (PFI) file or as command line parameters. In either case, the information is required.
- kerning information
  Kerning information is contained in a file with the extension AFM. To generate a font file that supports kerning, make sure the AFM file is in the same directory as the PFA file. Kerning is discussed in the **Key *Draw! Plus*** User Reference Guide.

Generating Fonts with Fontware Versions 1.2 or 2.0

These versions of Fontware create all three file types when creating PostScript printer fonts:

- PFA
- PFI font information file (required)
- AFM (required for kerning)

The file *name* for each type is the same as the name of the Bitstream font "outline." For example, CUPQ is the outline for ITC Galliard®, and Fontware creates files called CUPQ.PFA, CUPQ.PFI, and CUPQ.AFM.

The command line for creating an **Key *Draw! Plus*** font file from a Bitstream Fontware file is

BLDAF4 PFAfilename[.PFA] [AF4filename[.AF4]]

Square brackets indicate optional components of the command line:

- File extension—the BLDAF4 program automatically looks for files with the PFA extension and converts them to files with the AF4 extension.
- AF4 filename—if you do not provide an AF4 filename, the AF4 file will be created with the same name as the PFA file.

The following command line converts CUPQ.PFA to a file called GALLIARD.AF4:

BLDAF4 CUPQ GALLIARD

Generating Fonts with other versions of Fontware

To create **Key *Draw! Plus*** fonts from other versions of Fontware, you must create the PFA and AFM files and then pass the font information as parameters to BLDAF4.

Creating the Source Files

In the first series of steps you create the PFA and AFM files from the Bitstream outlines.

To create the PFA and AFM files:

1. Change directories to \FONTWARE.
2. Start Fontware by typing **BITS 1** (note the space) and pressing ↵.
3. Select the typefaces you want and tell Fontware to make PostScript printer fonts.
   Fontware terminates very quickly, but a new file called FWARE.JOB has been created. In addition, this process creates a \PSFONTS directory (if one does not already exist) in the root directory of drive C (C:\PSFONTS).
4. With \FONTWARE as the current directory, type the following command:

   CVTPSO FWARE.JOB ↵

This command creates PSO files in C:\PSFONTS for each of your font files. These files are needed for creating the AFM and PFA files.

5. With \FONTWARE as the current directory, type the following command:

   GENAFM01 FWARE.JOB ↵

   This command creates the AFM files in the directory C:\PSFONTS. The directory now contains a PSO file and an AFM file for each of your selected typefaces.

6. Change to the \PSFONTS directory and use the operating system **RENAME** command to change the extension of the PSO files to PFA.

   RENAME *.PSO *.PFA ↵

The \PSFONTS directory now contains a PFA file and an AFM file for each font you want to make. Copy these files to the directory that contains BLDAF4.

Copying the Source Files

The following example assumes that \PSFONTS is the current directory and that BLDAF4 is located in the KEYDRAW!\CONVERT directory. The drive identifier ([d:]) is required only if BLDAF4 is on a drive other than the drive on which \PSFONTS is located.

COPY *.PFA [d:]\KEYDRAW!\CONVERT ↵
COPY *.AFM [d:]\KEYDRAW!\CONVERT ↵

After you have copied the files to \KEYDRAW!\CONVERT, you can delete them from \PSFONTS.

Finding Font Information

Each font has an identifying number (font ID) and a weight value (for Roman, Bold, Italic, and Bold Italic) that must be passed as parameters to BLDAF4.

To determine the font ID and weight:

1. Change directories to \FONTWARE.

2. Type the file FWARE.JOB to the screen (if possible, one page at a time), or use a text editor to read the file. Look for lines that begin "vp=", like the following:

   vp=/F=ITC Galliard/N=32/W=N
   The N value is the font ID (in this case, 32 for ITC Galliard) and the W value is the weight.

3. Find and note the font ID and weight for each font.

NOTE: You do not have to use the font ID and weight given in FWARE.JOB, but it is recommended that you do. If you do not, you run the risk of creating files with duplicate IDs, as described on page 2-14.

Font Weights

FWARE.JOB and BLDAF4 use different codes to represent the four possible font weights. The following table lists the FWARE.JOB codes and the corresponding BLDAF4 codes. You must use the BLDAF4 codes when generating fonts.

font weight	FWARE.JOB code	BLDAF4 code
Roman	N	0
Bold	B	1
Italic	I	4
Bold Italic	T	5

Running BLDAF4

Having created the PFA and AFM files and having gathered the font IDs and weights, you can now generate the **Key *Draw! Plus*** font files.

In addition to the source and destination filenames, BLDAF4 accepts two parameters:

- **/I** – font ID
- **/W** – font weight

To generate fonts with BLDAF4:

1. Change directories to \KEYDRAW!\CONVERT.
2. To generate a font file, type a command line in the following form:

   BLDAF4 CUPQ GALLIARD /I=32 /W=0
   In this example, BLDAF4 generates an Key *Draw! Plus* font file called GALLIARD.AF4 from the Bitstream Galliard file CUPQ.PFA. The font has a font ID of 32 (ITC Galliard) and a weight of zero (Roman).

3. Repeat the previous step for each additional font, supplying new source and destination filenames, font IDs, and weight codes each time.

When you have finished running BLDAF4, copy the new AF4 files to \KEYDRAW!\FONTS, start **Key *Draw! Plus***, and add them to the font list using the Font Manager (see Chapter 9 of the **Key *Draw! Plus*** User Reference Guide).

If the PFA and AFM files are no longer needed, delete them or copy them to a floppy disk and then delete them from your hard disk.

Adobe Type 1 Conversion

Adobe Type 1 files—also called *binary* PostScript—have the extension PFB. In the Adobe Type Library sets, the PFB file is usually in the PSFONTS directory on the first disk of the set. The AFM file, which contains the information that is required for kerning, is usually in the root directory of the third disk.

The command line syntax for converting Type 1 files is as follows:

TP12AF4 PFBfile[.PFB] [AF4file[.AF4]]
[/I=x] [/W=x] [/A=OFF]

Square brackets indicate optional components of the command line:

- AF4 filename—if you do not provide a filename, the AF4 file will be created with the same name as the PFB file.
- File extension—the TP12AF4 program automatically looks for files with the PFB extension and converts them to files with the AF4 extension.
- The /I= switch gives the font identifier number (font ID). This number makes it possible for you to use resident fonts when present in your printer or typesetter. Appendix C contains a list of font IDs.
  If you do not provide a font ID, TP12AF4 automatically supplies the default ID of 255. Taking the default can potentially lead to duplicate font IDs. See page 2-14.
- The /W= switch gives the weight of the font. The switch accepts these values:
  - 0 = Roman
  - 1 = Bold
  - 4 = Italic
  - 5 = Bold Italic

  If you do not provide a weight value, the default value 0 (Roman) is supplied automatically.
- The /A=OFF switch turns off all warnings and alerts.

The following command line converts BDB_____.PFB (the Adobe Type 1 file for the Bodoni Bold typeface) to a file called BDNIBOLD.AF4:

TP12AF4 BDB_____ BDNIBOLD /I=36 /W=1

Fontographer Conversion

Fontographer files have the extension PFA. The kerning files have the extension AFM.

NOTE: FGF2AF4 accepts only Fontographer-format files created for PC-compatible systems. It does not accept PFA files created on the Macintosh® and then converted to the PC file format.

The command line syntax for converting Fontographer files is as follows:

FGF2AF4 PFAfilename[.PFA] [AF4filename[.AF4]] [/I=x] [/W=x] [/A=OFF]

Square brackets indicate optional components of the command line:

- AF4 filename—if you do not provide a filename, the AF4 file will be created with the same name as the PFA file.
- File extension—the FGF2AF4 program automatically looks for files with the PFA extension and converts them to files with the AF4 extension.
- The /I= switch gives the font identifier number (font ID). This number makes it possible for you to use resident fonts when present in your printer or typesetter. Appendix C contains a complete list of font IDs.
  If you do not provide a font ID, FGF2AF4 automatically supplies the default ID of 255. Taking the default can potentially lead to duplicate font IDs.
- The /W= switch gives the weight of the font. The switch accepts these values:
  - 0 = Roman
  - 1 = Bold
  - 4 = Italic
  - 5 = Bold Italic

  If you do not provide a weight value, the default value 0 (Roman) is supplied automatically.
- The /A=OFF switch turns off all warnings and alerts.

The following command line creates a font file called BDNIBOLD.AF4:

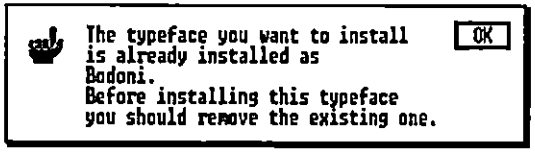
FGF2AF4 BDB_____ BDNIBOLD /I=36 /W=1

Duplicate Font IDs

If you do not provide a font ID when converting Adobe Type 1 or Fontographer font files, the conversion program automatically supplies the font ID 255. The next time you convert a font, you must provide a unique font ID, or you will encounter problems caused by duplicate font IDs.

Fonts with duplicate IDs cannot be added to the font list in Font Manager. (See Chapter 9 of the **Key *Draw! Plus*** User Reference Guide.). After the first font is added to the font list, attempts to add others with the same ID result in the display of the alert shown below:

There are two ways you can avoid this situation:


The typeface you want to install is already installed as Bodoni.
Before installing this typeface you should remove the existing one.
OK

- Use the correct ID for the font you are creating. Font IDs are listed in the table in Appendix C.
- If you cannot provide the correct font ID, specify a font ID for each new font that is one less than the ID given to the previous font—255, 254, 253, and so on.

Output

The Output application prints and displays files created with **Key *Draw! Plus***. You can

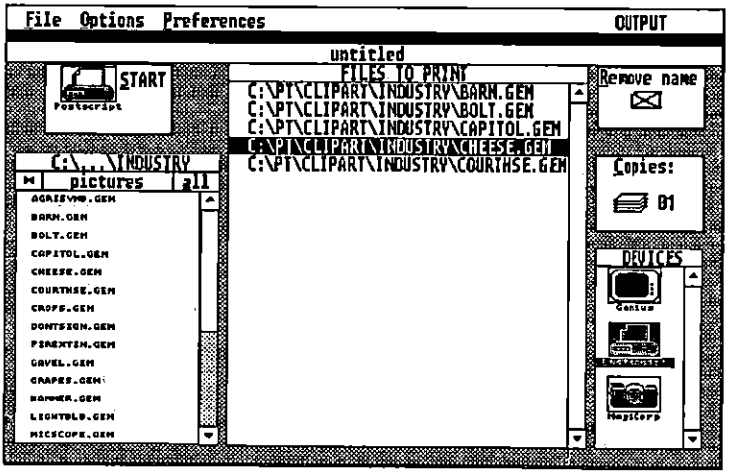
- print one or several files;
- display files on your screen;
- make and save lists of files for later printing or display;
- redirect output to a file for transmission over a network or to a remote device, such as a phototypesetter.

Printing a Key *Draw! Plus* File

Here is a quick description of printing an **Key *Draw! Plus*** file with Output. The rest of this chapter goes into greater detail.

To print an Key *Draw! Plus* file:

1. In **Key *Draw! Plus***, save your file, and then display the File menu and choose the **To Output** command.



2. When Output starts, the name of your **Key *Draw! Plus*** file automatically appears in Output's FILES TO PRINT list. To start printing, click on the START button or press **[ALT]-[S]**.
3. To quit Output and return to **Key *Draw! Plus***, choose the **To Key *Draw! Plus*** command from the File menu. To return to the operating system prompt, choose the **Quit** command.

Output Screen

> The Output window initially appears in the center of the screen. You can move the Output window by dragging its title bar.

- START button: starts printing or displaying files
- menu bar: lists the names of the Output menus
- title bar: contains the full path specification of the current output list file (if one is open)
- FILES TO PRINT list: shows the names of files to print or display
- Remove name button: removes selected files from the FILES TO PRINT list
- File Selector: lists the disk drives and directories from which you select files to add to the FILES TO PRINT list
- Copies button: sets the number of copies to print
- DEVICES window: contains icons representing the output devices you installed during Setup

Using Output

This section describes how you use several of the components of the Output screen.

FILES TO PRINT List

The FILES TO PRINT list contains the names of the files that will be printed or displayed on the screen.

- To add a filename to the list, click on the name in the File Selector. The File Selector is described in detail on the next page.
- To add all the filenames currently in the File Selector to the FILES TO PRINT list, click on the ALL button or press **[ALT]-A.**
- To remove a filename from the list, click on the name to select it (**Shift**-click for additional names), and then click on the Remove name button or press **[ALT]-R.** To remove all filenames from the list, double-click on the Remove name button.
- To change the order of the names in the FILES TO PRINT list, click on a filename to select it, and then drag the filename to its new position in the list.

Multiple Copies

You can make multiple copies of all files in the FILES TO PRINT list or just of selected files.

> Output automatically resets the count to 1 when two minutes has elapsed since the last document was processed.

- To make multiple copies of all files in the list, click on the Copies button. For 2 through 9 copies, simply type the number into the number field. For 10 or more copies (to a maximum of 99), use the Backspace key or **[Shift] [Del]** to clear the field and then enter the number of copies you want.
- To make multiple copies of selected files in the list, click on the filename in the File Selector for each copy you want.

Scrolling the List

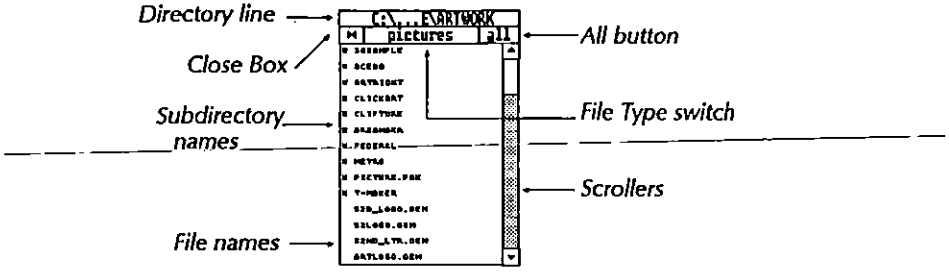
If the FILES TO PRINT list contains more filenames than can be displayed in the window, you can scroll up or down the list.

- To scroll down the list, click on the down-arrow; to scroll up the list (toward the top), click on the up-arrow. The directory list moves one filename for each click. To scroll continuously, hold down the mouse button over the arrow.
- To scroll the length of one window, click in the scroll box above or below the slider.
- To scroll by larger segments of the list, drag the slider in the direction you want to move.

File Selector

Use the File Selector to add filenames to the FILES TO PRINT list.

The *directory line* identifies the current disk drive and directory. Because the directory line can hold only fifteen characters, long directory names are abbreviated, as in the illustration.



Changing Drive or Directory

To find files in a different directory or drive, use the following techniques:

- To open a subdirectory, click on its name in the File Selector list. Directory names always appear first in the list and are preceded by an asterisk.
- To go up one level in the directory path, click on the File Selector's close box. For example, if the directory line reads **C:\KEYDRAW!\ARTWORK** and you click on the close box, the directory line changes to **C:\KEYDRAW!.**
- To change disk drives, click on the close box until the disk drive identifiers are listed; then click on the letter for the drive you want.

Changing File Types

By clicking on the file type switch above the list, you can change what kinds of files are listed.

- files—all files
- pictures—all files with the GEM extension
- images—all files with the IMG extension
- documents—all files with the OUT or GMP extension
- presentations—all files with the PTP extension

Scrolling the File Selector

If the File Selector contains more directory names or filenames than can be displayed, scroll the window using the same techniques as described on the previous page for the FILES TO PRINT list.

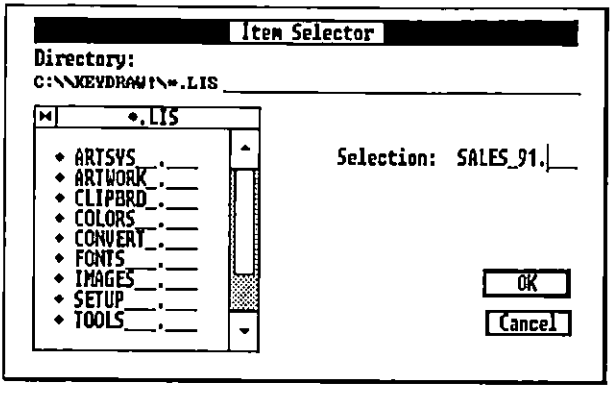
Output Lists

An *output list* is a file (with extension LIS) that contains a list of filenames. You can use output lists to save groups of files that you expect to print more than once or that you plan to use for on-screen presentations.

CAUTION: An output list contains the full path specification (disk drive, directories, and filename) of each file. If you rename a file or move it to another directory or drive, remove the old path specification and use the File Selector to add the file with its new name or path.

To create an output list:

1. Add the files you want to the FILES TO PRINT list. Sort them and make any duplications you want.
2. Choose **Save as** from the File menu to display the Item Selector.
3. Enter a name for your list (up to eight characters) on the Selection line. Output automatically supplies the file extension LIS when you exit the Item Selector.



4. Click on OK or press ↵ to save your list.

Use **Save** to preserve subsequent changes to the list. If you change an output list and want to save both the original and modified versions, use **Save as** to save the changed list under a different name.

To open an output list:

1. Choose the **Open** command from the File menu.
2. In the Item Selector, find and select the output list filename.

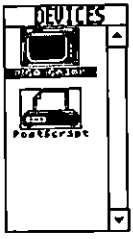
When you open an output list, Output displays the filenames in the FILES TO PRINT list. The title bar shows the location and name of the list.

Output to the Screen

You can use Output to "print" files to your screen for presentations or to preview the picture without the Key *Draw! Plus* toolbox or menu bar. On a standard horizontally-oriented monitor, screen output is most successful with pictures created in Landscape format.

To output files to the screen:

1. Add the files you want to the FILES TO PRINT list. Sort them and make any duplications you want.
2. Click on the display monitor icon in the DEVICES window.
3. Click on the START button to begin displaying the selected files.



If the FILES TO PRINT list contains more than one filename, you can configure Output so that the next file is displayed by a keystroke or mouse click or is displayed automatically after a specified time interval. See the description of the Screen Preferences dialog on page 3-15. To terminate screen output before you finish the output list, press the **[Esc]** key.

Menus

You can display menus and choose commands with the mouse or the keyboard.

When you use the mouse, the menus work just as they do in **Key *Draw! Plus***, depending on your current preferences. See the section on menus in Chapter 1 of the **Key *Draw! Plus*** User Reference Guide.

Using the Keyboard

Each menu name and command in Output has one underlined character. For example, the File menu has commands called **New** and **Open**. (It isn't always the first letter. Note the **Save as** command.)

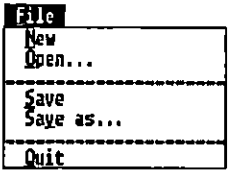
To choose commands from the keyboard:

1. Display the menu by holding down the **[ALT]** key as you press the underlined letter. For example, to display the File menu, press **[ALT] [F]**.
2. Press the underlined command letter (don't press **[ALT]** this time).

   For example, to choose the **Open** command, press **[ALT] [F]** and then **[O]**.

To "un-display" a menu displayed with the keyboard, press the **[Esc]** key.

File Menu



New Command

The **New** command clears all filenames from the FILES TO PRINT list so you can start a new output list.

Open Command

The **Open** command displays the Item Selector so you can select an output list file.

Save Command

The **Save** command saves the current output list file.

Save as Command

The **Save as** command displays the Item Selector so you can name and save an output list file for the first time or save an existing output list file under a new name.

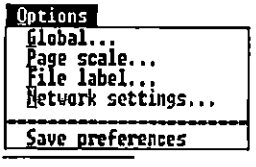
To Key *Draw! Plus* Command

The **To Key *Draw! Plus*** command returns you to **Key *Draw! Plus***.

Quit Command

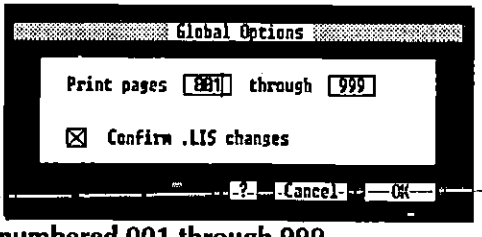
The **Quit** command exits Output and returns you to the operating system prompt.

Options Menu



Global Command

The **Global** command displays the Global Options dialog.



Print pages numbered 001 through 999

To print a range of pages from a document, use the Backspace key or **[Shift] [Del]** to clear the appropriate number field, and then type a page number. These are "absolute" page numbers. For example,

page 001 always refers to the first page of the document, regardless of any page numbering scheme used.

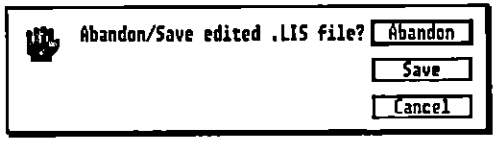
Confirm .LIS changes

When this option is selected, Output displays the Abandon/Save alert (described on the next page) as a safeguard against losing changes to LIS files.

Abandon/Save Alert

If you change an output list file—for example, by removing a filename or changing the file order—and do not save the changes, the modified output list will be lost choosing the **New, Open,** or **Quit** command.

To prevent loss of modified output list files, choose the "Confirm .LIS changes" option in the Global Options dialog (described on the previous page). Output then displays the alert shown below whenever a command would cause you to lose a modified list file.



With this alert, you have these options:

Abandon

Output abandons any changes you have made to the output list file and carries out the selected command.

Save

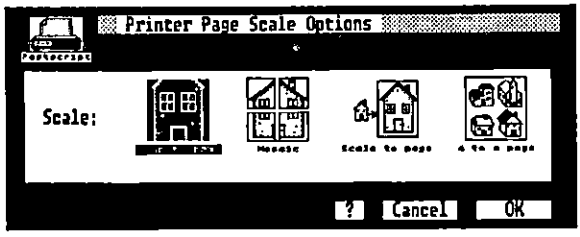
The output list file is saved under its current name, or a name you select, before your original command executes.

Cancel

The command is canceled and the output list remains as it was.

Page Scale Command

The **Page Scale** command displays the Printer Page Scale Options dialog.



Crop to page

Prints the picture in its actual size and centers it on the page. Any part of the picture that does not fit on the page is cropped.

Mosaic

Prints the picture at its actual size, over as many pages as necessary. You can use the Mosaic option to print segments of the picture on several pages and then paste the segments together to form the picture at its original size.

Scale to page

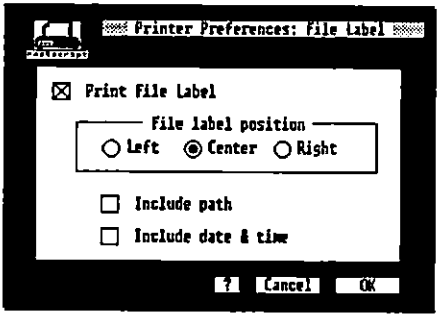
Enlarges or reduces the picture to fit on one full page.

4 to a page

Prints pictures from four files on the same page; each picture is scaled to occupy one-quarter of the page.

File Label Command

The **File Label** command displays the Printer Preferences: File Label dialog.



Print File Label

Prints a filename at the bottom of each page in the position you choose—Left, Center, or Right.

Include path	Includes the complete path name in the file label.
Include date & time	Includes the operating system's date and time stamp in the file label.

Network Settings Command

The **Network settings** command does not apply to **Key *Draw! Plus*** and is disabled.

Save Preferences Command

The **Save preferences** command saves:

- All Options menu dialog settings;
- The currently selected device;
- All device preferences set in the Preferences menu dialogs, not just those set for the currently selected device.

The next time you start Output, the preferences you saved last will be in effect.

To restore Output to the default preferences (those existing when you first installed **Key *Draw! Plus***), exit to the command line and then enter these commands:

CD \KEYDRAW! ↵
DEL OUTPUT.INF ↵

The first command accesses the KEYDRAW! directory, and the second command deletes the file in which your Output preferences are stored. A new INF file is created each time you use Output.

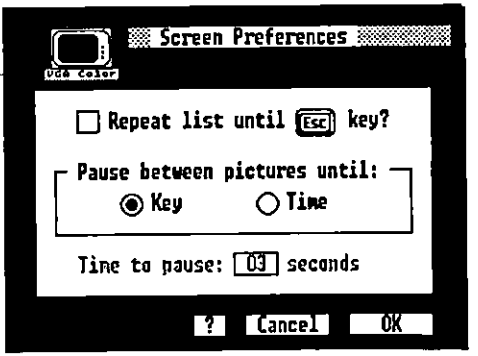
Preferences Menu (Screens)

When the selected device is a screen, the Prefernces menu contains only this command.

Screen Command

The **Screen** command displays the Screen Preferences dialog.

Icon for the currently selected screen



Repeat list until [Esc] key?

When this option is turned on, the files in the Output list are displayed repeatedly until you press the **Esc** key.

Pause between pictures until:

Key To display the next or previous file in the list, press one of the keys listed in the table below. You can also click the mouse button to display the next file.

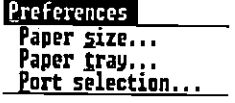
To display the next file:	To display the previous file:
Tab	Shift-Tab
PgDn	PgUp
↵	Backspace

Time This option sets Output to cycle automatically through the output list, displaying each document for the time specified in the "Time to pause" field described next.

Time to pause: To change the setting, use **[Shift] [Del]** or the Backspace key to clear the field, and then type the number of seconds to pause between files or pages (from 0 to 99 seconds). Once you start output to the screen, you can stop the display by pressing the **[Esc]** key.

Preferences Menu (Printers and Plotters)

Paper size Command



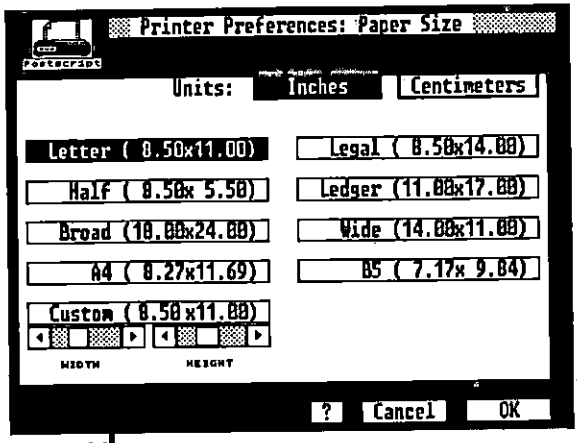
The **Paper size** command displays the Printer Preferences: Paper Size dialog.

Click on the button for the size you want. To view the sizes in metric units, click on the Centimeters button.

> The minimum setting is 2 inches (5 centimeters); the maximum is 25 inches (63.5 centimeters).

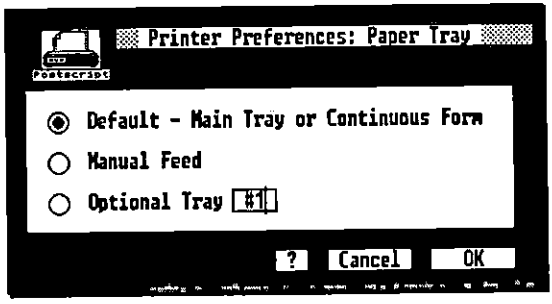
To set a custom size, click on the Custom button and then scroll the page width and height. You can change the settings by moving the slider, clicking in the scroll bar, or clicking the left- or right-arrow. Clicking in the scroll bar changes the value by 0.5 inch or 0.5 centimeter. Clicking on the arrows changes the value by .01 inch or .01 centimeter.

Icon for the currently selected device



Paper tray Command

The **Paper tray** command displays the Printer Preferences: Paper Tray dialog.



Default - Main Tray or Continuous Form

This option directs single-sheet output (typically on a laser printer) to the paper tray designated as the default. This is also the option to choose for continuous form or roll paper on dot-matrix and similar printers.

Manual Feed

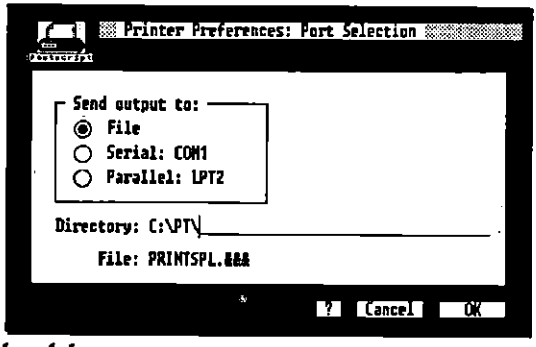
This option sets your printer or plotter for a manual feed option, or for a pause between pages. This is useful with single-sheet printers and most plotters.

Optional Tray

This option allows you to print from a tray other than the printer's main tray. To specify a tray number, use **Shift-Del** or the Backspace key to clear the field and then type the tray number.

Port selection Command

The **Port selection** command displays the Printer Preferences: Port Selection dialog.



Send output to:

These options redirect your output to a file or to a device other than the one specified in your installation.

File

The output is redirected to a file. When this option is selected, two additional fields become available.

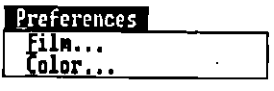
- Directory: Enter the full path specification in this field. By specifying a drive identifier other than the current drive, you can create the file on another disk.
- File: Enter the name of the file in this field.

Serial or Parallel

To redirect output to a device connected to a port other than the one named in Setup, click on the Serial or Parallel button and enter the port number for the target device.

For example, to print to a parallel device connected to LPT5, click on the Parallel button and then type **5** in the LPT field.

Preferences Menu (Cameras)

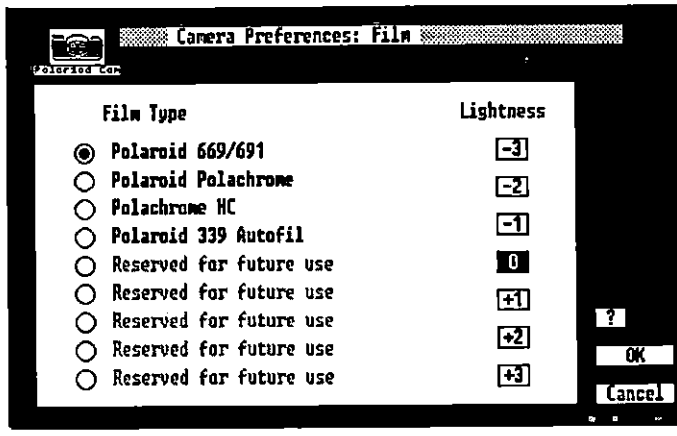


Film

When you choose the **Film** command, Output displays the Camera Preferences: Film dialog. In this dialog you specify the type of film you will use.

Film Type

Click on the button for the film type you will use. The film types listed are device-dependent.

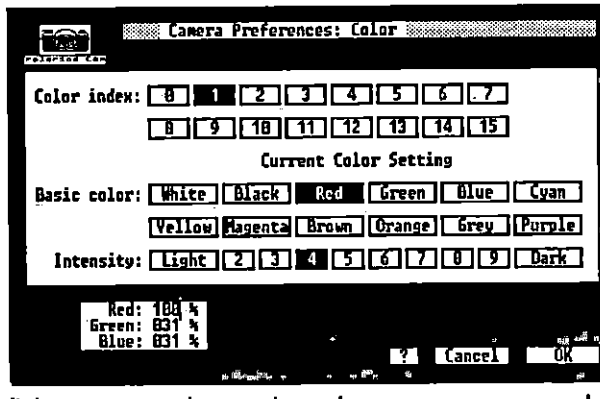


Lightness

This setting lets you vary the exposure of your pictures. The 0 setting is average for most films. Experiment with your equipment to determine which settings are best.

Color

When you choose the **Color** command, the Camera Preferences: Color dialog appears.



In this dialog you can change the colors your camera produces. But other factors can affect your results, such as the film type, the speed rating, the film age, the ambient temperature, and the humidity.

Color index

Use this option to identify the color associated with the color code used in **Key *Draw! Plus***. For example, yellow is the default color associated with 6.

Basic Color

Use this option to change the color associated with a selected color index number. For example, you could change color 6 from yellow to blue.

Intensity

Use this option to make the color darker or lighter. Higher numbers decrease the color intensity, while lower numbers increase it.

RGB Percentages

In the percentage counters at the lower left of the dialog, you can change the amount of red, green, or blue in a selected color. Use the **Backspace** key to delete the current setting and then enter a new setting.

You create new colors by specifying percentages of red, green, and blue. However, the existing Basic color and intensity settings can become irrelevant, because they are based on standard values. Also, because cameras and films vary, you might have to experiment to get the exact colors you want. The following table shows the results of various RGB combinations:

Red	Green	Blue	Result
100%	0%	0%	Pure Red
0%	0%	100%	Pure Blue
0%	0%	0%	Black
100%	100%	100%	White

Output Menu

Output Info Command

The **Output Info** command displays a dialog that identifies the version number of the Output you are using. Refer to this number when you call for technical support.

MAGICorp

This chapter describes how to use the MAGICorp Service with **Key *Draw! Plus***.

MAGICorp Service

You use the Service to send your **Key *Draw! Plus*** pictures for conversion to one of the following media:

- 35mm slides
- color photo prints
- color laser prints
- color transparencies

The MAGICorp Slide Service driver is a special device that you can install when you install **Key *Draw! Plus***.

To use the MAGICorp Service you must have a MAGICorp site code (described below). You can send your **Key *Draw! Plus*** files by modem or by diskette. To send by modem, you must have a Hayes™-compatible modem installed on your system. When you send by diskette, the diskette is not returned.

Site Code

If you are using MAGICorp for the first time, you must obtain a 5-digit site code from MAGICorp to open a billing account.

To obtain a MAGICorp site code:

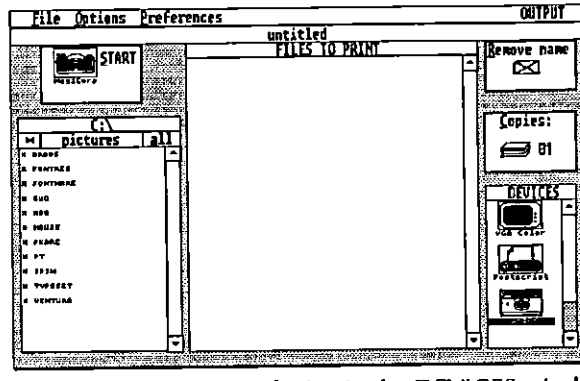
- Call MAGICorp at one of the following numbers:
  1-800-367-6244 (inside the continental U.S.)
  1-914-592-1244 (outside the continental U.S.)
- Provide MAGICorp with the following information:
  - **Key *Draw! Plus*** program name and version number
  - your mailing address (cannot be a post office box)
  - your billing address if it is different from your mailing address

Your site code must be in the Customer Information dialog each time you send files to MAGICorp—you cannot send files without a valid site code. The Customer Information dialog is described in this chapter.

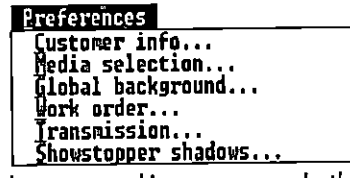
Using The MAGICorp Service

To send your **Key *Draw! Plus*** files to MAGICorp for conversion to slides, prints, or transparencies, perform these steps:

1. Prepare **Key *Draw! Plus*** pictures. Although they do not have to be in a specific format (MAGICorp will automatically size pictures to correct format), it is helpful if your files are sized for 35mm slides, even if you are ordering transparencies or prints.
2. Choose the **To Output** command from the **Key *Draw! Plus*** File menu. The Output screen appears.



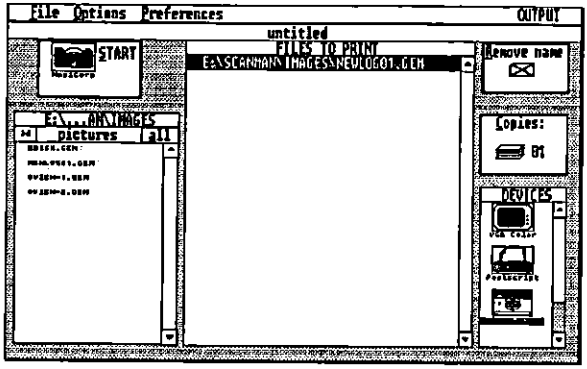
3. Click on the MAGICorp device in the DEVICES window. Then choose Preferences menu to display the MAGICorp commands.



4. Choose each command in sequence. In the MAGICorp dialog corresponding to each command, fill in the information. The dialogs are described in this chapter.

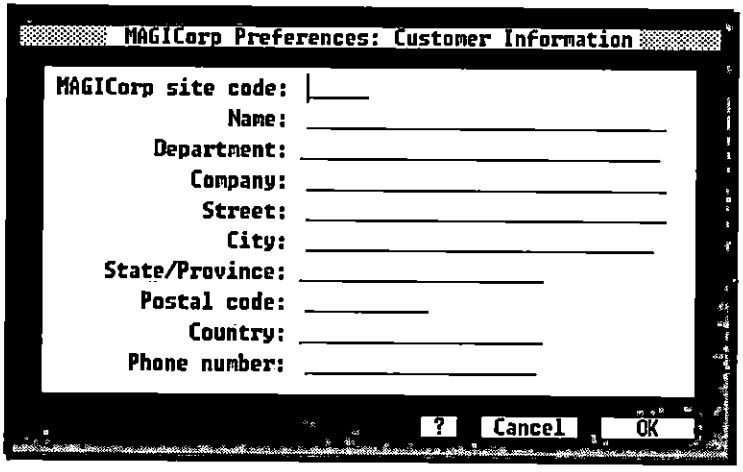
To transmit to MAGICorp:

1. Use the File Selector to choose the file or files you want to transmit. These appear in the FILES TO PRINT list.
2. Click on the MAGICorp device in the DEVICES window.
3. Click on the START button to transmit.



Customer Information Dialog

To display the Customer Information dialog, choose the **Customer Info** command from the Preferences menu.



Complete all fields in the dialog.

MAGICorp site code	Type your five-digit site code.
Name	Type your name (you have 30 character spaces).
Department	Type your department name (you have 30 character spaces). If you have room, add your department mail stop.

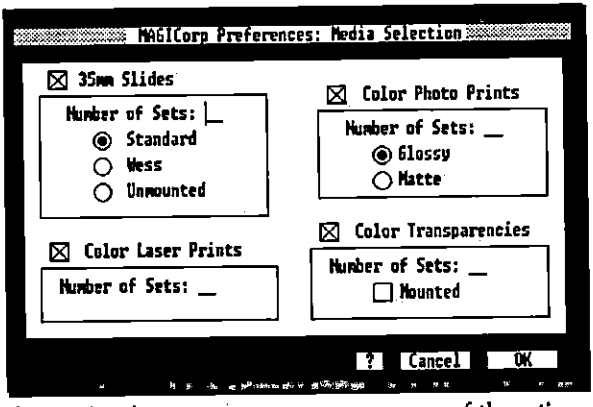
Company	XType the name of your company (you have 30 character spaces).
Street, City, State/Province, Postal Code, Country	Type your shipping address—this cannot be a post office box (you have 30 character spaces).
Phone Number	Type your complete phone number, including the area code.

To exit the Customer Information Dialog:

When you have completely filled in all fields in the dialog, click on OK to accept the settings and exit the dialog, or click on Cancel to discard the changes.

Media Selection Dialog

To display the Media Selection dialog, choose the **Media Selection** command from the Preferences menu.



Click on the option buttons to set one or more of the ptions.

Number of Sets Fields	Note that each option has a Number of Sets field. Use this field to enter the number of sets of each option type you want to receive. A set is composed of the files you have selected to print in the Output FILES TO PRINT list.

35mm Slides

Choose this option to have 35mm slides developed from your files. Enter the number of slide sets you want to have developed in the Number of Sets field, then choose one of the following options.

Standard The slides have a plastic, pin-registered slide mount. They fit 80- and 140-frame Carousels.

Wess The slides have a plastic, pin-registered slide mount, plus heat-resistant glass plates covering the film to protect against warping, fingerprints, and dust. They fit 80-frame Carousels only.

Unmounted This option provides unmounted 35mm slide film in a single strip, with eight frames per foot.

Color Photo Prints

Choose this option to receive color photo prints of your pictures. The prints are 8½" x 11¾". Enter the number of color print sets you want to have made in the Number of Sets field, then choose one of the following options.

Glossy This option provides a shiny finish on heavy photographic stock.

Matte This option provides a flat, non-reflecting finish on heavy photographic stock. Matte finish does not show fingerprints.

Color Laser Prints

Choose this option to receive color laser prints. The prints are 8.5" x 11" in full color on standard bond paper. Enter the number of color laser print sets you want to have made in the Number of Sets field.

Color Transparencies

Choose this option to receive color transparencies. The transparencies are 8.5" x 10". Enter the number of transparency sets you want in the Number of Sets field, then choose the following option if you want to have your transparencies mounted.

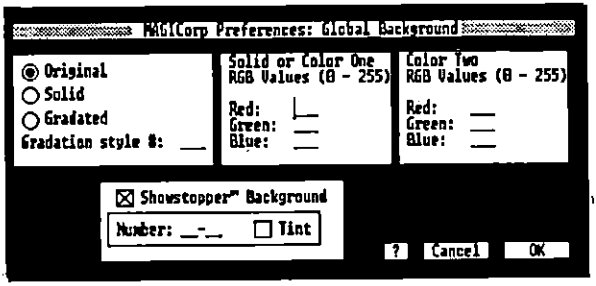
Mounted Choose this option if you want to have your transparencies mounted in cardboard frames. Mounted transparencies are sturdier and easier to handle without getting fingerprints on the film.

To exit the Media Selection dialog:

Click on OK to accept the settings and exit the dialog, or click on Cancel to discard the changes.

Global Background Dialog

To display the Global Background dialog, choose the **Global Background** command from the Preferences menu.



You use the dialog to define a background for all the pictures you send.

The MAGICorp global background overrides the backgrounds in all the files in **Key *Draw! Plus***, unless you choose the Original option on this dialog.

You can set the following options in the dialog.

Original

Choose this option to use each file's background as it was originally created.

Solid

Choose this option to give your picture a solid background color. You must also specify the RGB values for the solid color. MAGICorp offers color palettes in each of the media it supports so that you can examine the appearance of various combination of RGB values.

Gradated

Choose this option to give all the pictures one of two gradated backgrounds. Click in the text field and then type the number for one of these styles:

Style #1—Top-bottom gradated

Choose this style to blend two colors from the top to the bottom of the picture. This is the default style.

Specify the RGB values for Color One, the color at the top of the picture.

Specify the RGB values for Color Two, the color at the bottom of the picture.

Style #2—Center-gradated

Choose this style to give all pictures a smooth, gradated background, blending two colors from a center horizontal line to the top and bottom of the picture.

Specify the RGB values for Color One, the color at the top and bottom of the picture.

Specify the RGB values for Color Two, the color at the middle of the picture.

Solid or Color One and Color Two RGB Values

You change the background color by entering RGB (red, green, and blue) values for the new color. RGB values represent the amounts of red, green, and blue in a color. Type a number from 0 to 999 for Color One and/or Color Two, depending on whether you choose a gradated background.

Showstopper Background

Choose this option to give all the pictures a showstopper photographic background. You select the background and its code from the Showstopper catalog, which is available from MAGICorp. There is an extra charge for using showstopper backgrounds.

To specify a Showstopper background:

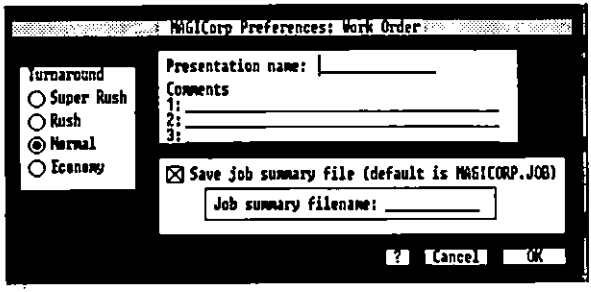
1. Click on the Number field and type the four-character Showstopper code.
2. Click on the Tint box to indicate that you have chosen a tintable background (those backgrounds whose codes begin with "C"). The tint will be the color you specified for your Original, Solid, or Gradated color background. There is no effect on the background if you select the Tint box after you select a non-tintable background.

To exit the Global Background dialog:

Click on OK to accept the settings and exit the dialog, or click on Cancel to discard the changes.

Work Order Dialog

To display the Work Order dialog, choose the **Work Order** command from the Preferences menu.



You must fill in the information options and fields in this dialog before you transmit your files to MAGICorp. The information you supply is stored in a job summary file that is transmitted when you send your files.

Turnaround

Use this option to indicate a turnaround time. There are four priorities:

Super Rush Orders for fewer than 25 slides received by MAGICorp before 10:00 PM EST. will be shipped the same day for delivery the next business morning. You must call the Network Controller at 1-800-367-6244 by 7:00 PM EST to get an approval number for the order. Super Rush service may not always be available.

Rush Orders for fewer than 50 slides, received between noon and 6:00 PM (your time zone), will be shipped the same day for delivery on the next business day. Rush service might be available after 5:00 PM For more than 50 slides or other media, consult the MAGICorp Network Controller at 1-800-367-6244 to confirm availability before transmitting your order.

Normal Orders received before noon (your time zone) will be shipped the same day for delivery on the next business day.

Economy Orders received before noon (your time zone) will be shipped the next day for delivery the following business day.

Orders received by MAGICorp on weekends and holidays will be treated as if they were

received before noon on the next business day. If you order photographic prints or transparencies, you will receive your order one day later than is the case for slides.

Presentation name

You can assign a name for the **Key *Draw! Plus*** files you are transmitting. The name can be up to 15 characters. This name does not have to match an **Key *Draw! Plus*** filename.

Comments You can type up to three lines of notes in this field. Use the up or down cursor arrow keys to move from line to line. Use the comments lines to provide extra information about your order, such as your home phone number. MAGICorp cannot guarantee that instructions in the Comments field will be executed if you do not confirm them by calling the Network Controller.

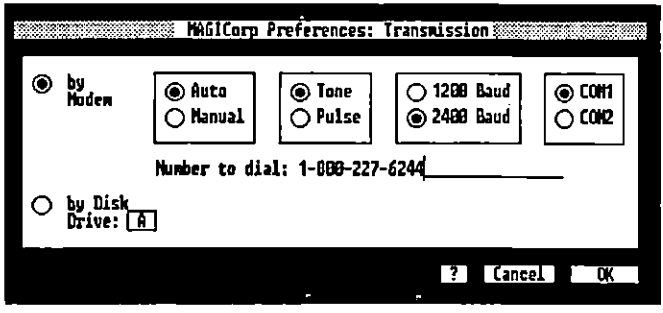
Job Summary

Click on the "Save job summary file" option to save a file that lists all your choices in the Work Order dialog.

Job Summary Filename Assign a filename for the job summary file (the default is MAGICORP.JOB). MAGICorp prints a summary sheet that lists your choices in the Work Order dialog. Keep this sheet in case you want to contact MAGICorp about your order.

Transmission Dialog

To display the Transmission dialog choose the **Transmission** command from the Preferences menu.



You must fill out this dialog before you can transmit files to MAGICorp. You can either transmit your files by modem over the telephone lines (toll-free) or send the files on a disk. If you send by disk, the disk is not returned.

By Modem

Choose this option to send by modem. You must then set the modem options:

Auto or Manual These options specify whether you dial the telephone automatically or manually. If you choose Auto, the phone number you specify in the Number to dial field is dialed automatically by the modem and the MAGICorp software. If you choose Manual, you must dial the phone number.

Tone or Pulse Choose one of these options to specify whether you have a touchtone or pulse telephone.

1200 Baud or 2400 Baud Choose one of these options to specify the modem transmission baud rate.

Com 1 or Com 2 Choose one of these options to specify the computer port to which your modem is connected.

Number to dial Type MAGICorp's modem phone number; this is the phone number your modem will dial. Parentheses or dashes are optional. If necessary, type any prefix necessary to obtain an outside line from your office. Then type:

1-800-227-6244 (inside the continental United States)
1-914-592-1053 (outside the continental United States)

By Disk

Choose this option to send your files to a disk. You can send this disk directly to MAGICorp or take it to another computer that has a modem and on which **Key *Draw! Plus*** is installed.

Drive To specify the disk drive, click on the Drive box. If you do not want to send the files to a disk in Drive A (the default), press **Shift-Delete** or the **Backspace** key to clear the field, then type the

letter of the drive to which you want to send your files.

Send your disks to this address:

MAGICorp
50 Executive Blvd.
Elmsford, N.Y. 10523
ATTN: Network Controller

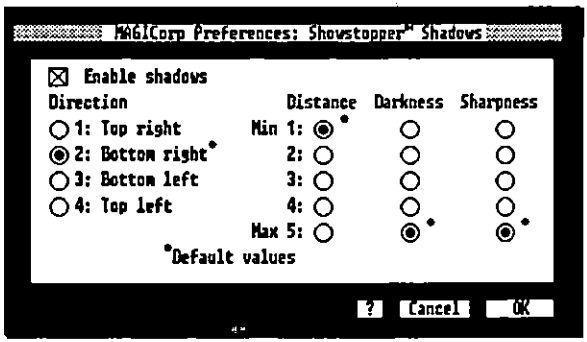
(Disks cannot be returned)

To exit the Transmission dialog:

Click on OK to accept the settings and exit the dialog, or click on Cancel to discard the changes.

Showstopper Shadows Dialog

To display the Showstopper Shadows dialog, choose the **Showstopper Shadows** command from the Preferences menu.



You use the dialog to enable drop shadows for your pictures. Default values are marked with an asterisk.

To enable Showstopper shadows:

1. Click on the Enable shadows button.
2. Click on one of the Direction buttons to indicate the direction in which to cast the shadow.
3. Click on a Distance button to indicate the desired distance between your picture and its shadow.
   This option specifies the distance the shadow is cast. The greater the distance setting, the greater the space appears between your design elements and the background.
4. Click on a Darkness button to indicate the desired darkness value.

This option specifies the transparency of the shadow. Shadows can be opaque or sheer (allowing background patterns to show through). The minimum setting causes the shadow to be nearly transparent; the maximum setting causes it to be opaque.

5. Click on a Sharpness button to indicate the desired sharpness value.
   This option specifies the distinctness of the shadow. Minimum sharpness causes the shadows to be fuzzy and diffused; the maximum setting creates sharp, crisp shadows.

To exit the Showstopper Shadows dialog:

Click on OK to accept the settings and exit the dialog, or click on Cancel to discard the changes.

Symbol File Conversion

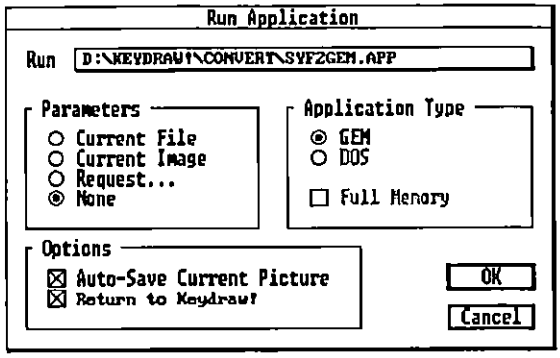
The SYF2GEM symbol file conversion program is provided so that **Key *Draw! Plus*** users can convert their symbol files (with extension SYF) to GEM files that can be opened or merged in **Key *Draw! Plus***, Version 2.0.

Using SYF2GEM

SYF2GEM is a graphics-based application that uses the same system software that **Key *Draw! Plus*** uses. Because you run the program with the **Key *Draw! Plus* To App** command, you must already be in **Key *Draw! Plus*** before you can start SYF2GEM.

To start SYF2GEM,

1. Display the **Key *Draw! Plus*** File menu and choose the **To App** command. (The **To App** command is described in detail in Chapter 3 of the **Key *Draw! Plus*** User Reference Guide.)
2. In the Run Application dialog, click on the Run button to display the Item Selector.
3. In the Item Selector, set the directory path to the directory in which SYF2GEM is located (the default is \KEYDRAW!) and double-click on SYF2GEM.APP.
4. In the Run Application dialog, make your selection in the Parameters box according to the guidelines on the next two pages.
   SYF2GEM's Application Type is GEM and is automatically set. Choices among the Options (Auto-Save Current Picture and Return to **Key *Draw! Plus***) are a matter of personal preference. The illustration below shows how the Run Application dialog might appear when you have made all your selections.
5. Click on OK to exit the Run Application dialog and start SYF2GEM.



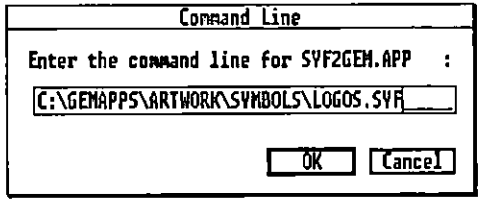
Parameters

SYF2GEM can accept two of the Run Application dialog's parameters: Request and None.

Request If you choose the Request parameter, the Command Line dialog appears when you exit the Run Application dialog. (The Command Line dialog is also described in the **Key *Draw! Plus*** User Reference Guide). Enter the full path and filename for the file you want to convert. For example, you might enter this in the dialog:

Note the following about symbol files converted with the Request parameter:

- You can convert only one symbol file at a time in this manner.



  When the file named in the Command Line dialog has been converted, you return to **Key *Draw! Plus*** or to the operating system command line (depending on whether you chose the **Return to Key *Draw! Plus*** option).

- The name and location of the GEM file created by SYF2GEM is predetermined. The file's name is the same as that of the SYF file that was converted, and the file's location is the same directory as the SYF file's. For example, the command line string shown above would produce a file called LOGOS.GEM in C:\GEMAPPS\ARTWORK\SYMBOLS.

You can rename and move the converted file *after* you run SYF2GEM, but not as part of the conversion process itself.

None The None parameter differs from the Request parameter in two important respects:

- ❑You can convert more than one symbol file.
- ❑You can specify the converted file's name and location.

To convert symbol files with the None parameter,

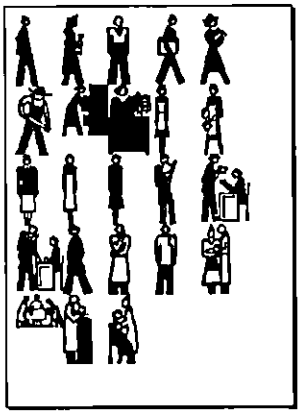
1. When you exit the Run Application dialog, the first Item Selector of SYF2GEM (labeled "Symbol-File to convert") appears.
2. Change the path in the Item Selector to your symbol file directory, and double-click on the name of the first file you want to convert.
3. The second SYF2GEM Item Selector (labeled "GEM-File to create") appears.
4. Note that the Item Selector automatically supplies a GEM filename that matches the SYF file's name. This GEM file will be created in the directory in which SYF2GEM is located. You have two options at this point:
   - ➢You can accept the default name and path. To do so, exit the Item Selector by clicking on OK or pressing ↵.
   - ➢You can save the converted file to the directory of your choice and with the filename of your choice. To do so, change the path in the Item Selector, supply a new name, and then exit the Item Selector by clicking on OK or pressing ↵.
5. The "Symbol-File to convert" Item Selector appears again. You have two options:
   - ➢You can choose another symbol file to convert, in which case the cycle repeats itself.
   - ➢You can quit SYF2GEM by clicking on the Item Selector's Cancel button or by pressing **Esc**.

Quitting SYF2GEM

You can quit SYF2GEM any time the Item Selector is displayed by clicking on the Item Selector's Cancel button or by pressing **Esc**.

Converted Symbol Files

The individual symbols in the original SYF file are arranged in a single layer in the new GEM file. (The example below shows the converted symbol file JOBS1.SYF.) Each symbol is enclosed within a single selection frame, either as a group or as a merged element.



To use a converted symbol file,

1. Open the file into which you want to insert symbols.
2. Merge the converted symbol file into the current file (**Merge File** command).
3. Activate the symbol layer, select a symbol you want, and **Cut** or **Copy** it to the paste buffer.
4. Activate the layer in which you want the symbol, and **Paste** the symbol onto the drawing surface.
5. For additional symbols, repeat steps 3 and 4.
6. When you have inserted all the symbols you want, use the Layer Manager to remove the layer that contains the unwanted symbol.

Key *Draw! Plus* Character Set

The table on the following pages lists the characters available in the **Key *Draw! Plus*** International Character Set. To enter characters that are not available directly from the keyboard into the Create Text Element dialog, hold down the **[Alt]** key as you enter the ASCII decimal value on the keyboard's numeric keypad. For example, the paragraph symbol (¶) is **[Alt] [188]**.

NOTE: You cannot display Symbol and Wombat characters in the Create Text Element dialog; instead, you will see the corresponding international character. After you exit the dialog, the correct character appears on the drawing surface.

Decimal	International	Symbol	Wombats
32			
33	!	!	✂
34	"	∀	✂
35	#	#	✂
36	$	∃	✂
37	%	%	✆
38	&	&	✆
39	'	∍	✇
40	(	(	✈
41	)	)	✉
42	*	*	☛
43	+	+	☞
44	,	,	✌
45	-	−	✍
46	.	.	✎
47	/	/	✏
48	0	0	✐
49	1	1	✑
50	2	2	✒
51	3	3	✓
52	4	4	✔
53	5	5	✕
54	6	6	✖
55	7	7	✗
56	8	8	✘
57	9	9	✙
58	:	:	✚
59	;	;	✛

Decimal	International	Symbol	Wombats
60	<	<	✜
61	=	=	✝
62	>	>	✞
63	?	?	✟
64	@	≅	✠
65	A	Α	✡
66	B	Β	✢
67	C	Χ	✣
68	D	Δ	✤
69	E	Ε	✥
70	F	Φ	✦
71	G	Γ	✧
72	H	Η	★
73	I	Ι	✩
74	J	ϑ	✪
75	K	Κ	✫
76	L	Λ	✬
77	M	Μ	★
78	N	Ν	★
79	O	Ο	★
80	P	Π	✭
81	Q	Θ	✮
82	R	Ρ	✯
83	S	Σ	✳
84	T	Τ	✳
85	U	Υ	✳
86	V	ς	✳
87	W	Ω	✳

Decimal	International	Symbol	Wombats
88	X	Ξ	✸
89	Y	Ψ	✹
90	Z	Ζ	✹
91	[	[	✳
92	\	∴	✳
93	]	]	✳
94	^	⊥	✲
95	_		✿
96	'	‾	❀
97	a	α	❁
98	b	β	❂
99	c	χ	✱
100	d	δ	❃
101	e	ε	❄
102	f	ϕ	❆
103	g	γ	✳
104	h	η	✳
105	i	ι	✳
106	j	φ	✲
107	k	κ	✳
108	l	λ	●
109	m	μ	○
110	n	ν	■
111	o	ο	❑
112	p	π	❒
113	q	θ	❑
114	r	ρ	❒
115	s	σ	▲

Decimal	International	Symbol	Wombats
116	t	τ	
117	u	υ	
118	v	ϖ	
119	w	ω	
120	x	ξ	
121	y	ψ	
122	z	ζ	
123	{	{	
124	|	|	
125	}	}	
126	~	~	
127			
128	Ç		
129	ü		
130	é		
131	â		
132	ä		
133	à		
134	å		
135	ç		
136	ê		
137	ë		
138	ë		
139	ï		
140	î		
141	ì		
142	Ä		
143	Å		

Decimal	International	Symbol	Wombats
144	É		
145	æ		
146	Æ		
147	ô		
148	ö		
149	ò		
150	û		
151	ù		
152	ÿ		
153	Ö		
154	Ü		
155	¢		
156	£		
157	¥		
158	¤		
159	ƒ		
160	á		
161	í	ϒ	❡
162	ó	′	❢
163	ú	≤	❣
164	ñ	⁄	❤
165	Ñ	∞	❥
166	ª	ƒ	❦
167	º	♣	❧
168	¿	♦	♣
169	⌐	♥	♦
170	¬	♠	♥
171	½	↔	♠

Decimal	International	Symbol	Wombats
172	¼	←	①
173	¡	↑	②
174	«	→	③
175	»	↓	④
176	ã	°	⑤
177	õ	±	⑥
178	Ø	″	⑦
179	ø	≥	⑧
180	œ	×	⑨
181	Œ	∝	⑩
182	À	∂	❶
183	Ã	•	❷
184	Õ	÷	❸
185	§	≠	❹
186	‡	≡	❺
187	†	≈	❻
188	¶	…	❼
189	©	|	❽
190	®	—	❾
191	™	↵	❿
192	″	ℵ	①
193	…	ℑ	②
194	‰	ℜ	③
195	•	℘	④
196	–	⊗	⑤
197	—	⊕	⑥
198	°	∅	⑦
199	Ã	∩	⑧

Decimal	International	Symbol	Wombats
200	Â	∪	ⓐ
201	È	⊃	ⓑ
202	Ê	⊇	ⓒ
203	Ë	⊄	ⓓ
204	Ì	⊂	ⓔ
205	Í	⊆	ⓕ
206	Î	∈	ⓖ
207	Ï	∉	ⓗ
208	Ò	∠	ⓘ
209	Ó	∇	ⓙ
210	Ô	®	ⓚ
211	Š	©	ⓛ
212	š	™	➔
213	Ù	∏	→
214	Ú	√	↔
215	Û	·	↕
216	Ÿ	¬	↘
217	ß	∧	↛
218	¯	∨	↗
219	¤	⇔	↚
220	ı	⇐	➔
221	¬	⇑	→
222		⇒	⟶
223		⇓	➡
224		◊	➠
225		〈	➡
226		®	➢
227		©	➢

Decimal	International	Symbol	Wombats
228		™	➤
229		∑	➥
230		⎛	➦
231		⎜	➧
232		⎝	➨
233		⎡	➩
234		⎢	➪
235		⎣	➫
236		⎧	➬
237		⎨	➭
238		⎩	➮
239		⎪	➯
240			
241		⟩	➱
242		⌠	➲
243		⌡	➳
244		⎮	➴
245		⎮	➵
246		⎞	➶
247		⎟	➷
248		⎠	➸
249		⎤	➹
250		⎥	➺
251		⎦	➻
252		⎫	➼
253		⎬	➽
254		⎭	
255		~	

CNF Files

For certain printers, the GEM 4.0 printer driver reads a configuration file (.CNF) that contains information the driver uses to configure a specific printer. You can alter a .CNF file to change the operation of your printer. For example, if you need to change the margins of the printable area for your PostScript printer, or if you want to add new PostScript fonts, you can change your .CNF file to achieve this result.

A unique .CNF file is provided for each of these printer types:

- the Hewlett-Packard® soft font printers;
- the Hewlett-Packard Paintjet XL;
- all PostScript printers.

The .CNF files are ASCII files that have the filename form **ddd.CNF**. The letters **ddd** are a driver identification that is taken from the driver's filename, which uses the form **PDddd9.fff**. The letters **fff** are a font extension such as ELQ or B30. Entries in a .CNF file have this format:

KEYWORD (PARM1,PARM2,PARM3,...)

KEYWORD describes the function to be adjusted or included, and PARM1 PARM2 PARM3... are parameters that modify or describe KEYWORD. Parameters can be separated by commas.

Modifying CNF files

To modify a .CNF file:

1. Use a word processing program, or a line editor that can save pure ASCII files, to open the .CNF file you want to change. For example, if you are using a monochrome PostScript printer, you would open PSMONO.CNF.
2. Type the parameters for each function you want to alter or add. The functions and parameters are described in the following pages. Do not place any extra spaces within the .CNF file.
3. Save the .CNF file as an ASCII file with its existing filename.

Hewlett-Packard Soft Font Drivers

The .CNF file for a Hewlett-Packard soft font driver has this format:

DOWNPATH (DIR)
PERMFONT (ID FILENAME)
FONTSPEC (FILENAME ID SIZE ATTR MAP)

DOWNPATH

DOWNPATH identifies the directory that contains .HFI files and soft font files. The parameter is DIR the path name of the directory. If you give a relative path, it is taken as relative to the directory containing the driver. The default is ".", the directory containing the driver.

PERMFONT

PERMFONT indicates that the soft font has already been downloaded to the printer. SoftKey does not provide a separate downloading program. When the PERMFONT function is enabled, the driver examines the soft font file for character width information but does not send the font to the printer. The parameters are

ID	the unique soft font identifier number, which you obtain from the downloading program
FILENAME	the soft font filename

These parameters have no default values.

FONTSPEC

FONTSPEC provides an alternative to .HFI files. It gives the driver information about a soft font that is available for downloading. The parameters are

FILENAME	the soft font filename (which requires no extension—the driver will use the extensions .SFP and .SFL).
ID	the GEM font identifier.
SIZE	the font size in points.
ATTR = 0	he font attribute for Normal.
ATTR = 1	the font attribute for Bold.
ATTR = 4	the font attribute for Italic.
ATTR = 5	the font attribute for Bold Italic.
MAP = 0	remaps the character set to the HP character set.
MAP = 1	remaps the character set to the GEM/Ventura character set.

PostScript Drivers

The .CNF file for a PostScript driver has this format:

MARGINS (XL XR YT YB)
PFI (ON_OFF)
PSFONTS (DIR)
FONT (NAME ID ATTR MAP RESFLAG)

MARGINS

MARGINS sets margins that limit the graphics output to the printable area. In the provided PSCOLOR.CNF file, the left and right margins are 0.25", with 1" for the top and bottom margins. For the PSMONO.CNF file, the left, right, top, and bottom margins are 0.25".

Check the manual for your your printer to determine whether it has these margins. If the margins are different, you should edit the .CNF file to set the desired margins.

The parameters are

XL	sets the left margin in device units.
XR	sets the right margin in device units. The default value for XL and XR (for 0.25") is 75 in device units.
YT	sets the top margin in device units.
YB	sets the bottom margin in device units.

PFI

PFI indicates whether a PostScript Font Information (.PFI) file search is requested. The .PFI files should be located in the directory that contains the downloadable PostScript ASCII or *binary* format fonts.

The parameters are

ON_OFF = O	disables the driver search for .PFI files (the default).
ON_OFF = 1	enables the search.

PSFONTS

PSFONTS identifies the directory that contains the .PFI file and associated PostScript downloadable font files. The parameter is:

DIR	the path name of the directory. If you give a relative path, it is taken as relative to the directory containing the driver. The default is ".", the directory containing the driver.

FONT

FONT provides an alternative to supplying a .PFI file for the PostScript font.

Using FONT to Add PostScript Fonts

The PostScript .CNF file has information for the standard 35 resident PostScript fonts. If you add PostScript fonts, you must alter your PostScript .CNF file. For each new PostScript font you add to Artline, you must provide a new FONT line in the .CNF file.

For FONT, each line in the .CNF file has this format:

font(NAME, ID, ATTR, MAP, RESFLAG)

For example, if you install the Adobe Type 1 font Galliard-Bold, add the following line to the .CNF file:

font(Galliard-Bold,32,B,TEXT,DOWN:GLB.PFB)

The parameters are

NAME the font's PostScript name.

ID the font identification number (see Appendix C for a list of font ID numbers).

ATTR = M the font attribute for Normal.

ATTR = B the font attribute for Bold.

ATTR = I the font attribute for Italic.

ATTR = BI the font attribute for Bold Italic.
MAP = TEXTenables the re-encoding of the character set.

MAP = PI disables the re-encoding of the character set (for symbol fonts).

RESFLAG = RES shows that the font is resident.

RESFLAG = DOWN:filename
indicates that the font filename must be downloaded.

Font ID Numbers

This table lists the font identifications (IDs) for many common typefaces. The typeface names are listed alphabetically.

Typeface	Font ID	Typeface	Font ID
American Classic	47	Brush	41
American Classic Extra Bold	48	Century Old Style	38
ITC American Typewriter®	100	Century II	43
Antique Olive	61	Century II Light	49
Antique Olive Compact	70	Cheltenham	39
ITC Avant Garde® (Book/Demi)	51	Courier	102
ITC Avant Garde (Medium/Bold)	81	Commercial Script	3
Baskerville	33	Cooper Black	8
Bauhaus	66	Dom Casual/Dom Diagonal	75
ITC Benguiat® (Book/Bold)	26	Dutch (serif)	14
Bitstream Charter™	9	Fixed Pitch (monospaced)	1
Blackletter (Cloister Black)	10	Franklin Gothic	56
Bodoni (Medium/Bold)	36	Franklin Gothic Heavy	57
Bodoni Poster	37	Friz Quadrata	28
ITC Bookman® (Light/Demi)	23	Futura (Medium/Bold)	62
Broadway	80	Futura Book	83
Futura Extra Black	85	Lucida Serifed	45
Futura Heavy	84	ITC Machine®	101
Futura Light	82	Manhattan	77
Futura Medium Condensed	86	Melior	31
ITC Galliard®	32	New Century Schoolbook	20
Garamond (Light/Bold)	22	Old English	4
Gill Sans	63	Optima	52
Gill Sans Extra Bold	64	Optima Outline	78
Globe Gothic Outline	76	Orator	104
Glypha	27	Palatino®	21
Goudy	34	Park Avenue/Coronet	35
Helvetica®/Triumvirate	67	Prestige Elite	103
Helvetica Black	55	Raphael	5
Helvetica Condensed	59	Sonata (Music)	130
Helvetica Condensed Black	60	ITC Souvenir® (Light/Demi)	25
Helvetica Condensed Light	58	Stunt/Revival Roman	7
Helvetica Light	54	Swiss (san serif)	2
Helvetica Narrow	50	Symbol (Math/Greek)	128
IBM Keycap	131	Times Roman®	15

Typeface	Font ID	Typeface	Font ID
ITC Korinna®	53	Trump	30
Letter Gothic	105	CG Trade Condensed	72
ITC Lubalin Graph® (Book/Demi)	24	CG Trade Extra Condensed	73
Lubalin Graph Extra Bold	42	CG Trade Extended	74
Lucida Monospaced	106	Uncial	6
Lucida San Serif	69	Uncle Sam Open	79
Univers	65		
Univers Extra Bold	71		
ITC Zapf Chancery®	29		
ITC Zapf Dingbats®	129		

NOTE:

This is the most up-to-date font ID list available at the time of printing. If you receive an updated list from Xerox Ventura Publisher, you can add those ID numbers to this table.

Times Roman, Helvetica, and Palatino are registered trademarks of Linotype Corporation.
ITC American Typewriter, ITC Avant Garde Gothic, ITC Benguiat, ITC Bookman,
ITC Galliard, ITC Garamond, ITC Korinna, ITC Lubalin Graph, ITC Machine, ITC Souvenir, ITC Zapf Chancery, and ITC Zapf Dingbats are registered trademarks of International
Typeface Corporation. Bitstream Charter is a trademark of Bitstream Inc.

Index

!

"Abandon/Save" alert (Output) 3-8

A

About command (HiJaak) 1-17
Adobe Font Metric files 2-3, 2-7
Adobe Type 1 fonts
  converting 2-7
advanced destination options dialog (HiJaak) 1-11
AFM files 2-3, 2-7
ALSETUP 1-4
ASCII PostScript fonts
  converting 2-3

B

Binary PostScript fonts
  converting 2-7
Bitstream fonts
  converting 2-3
Bitstream Fontware
  converting from DRI versions 2-3
  converting from non-DRI versions 2-4
  DRI version 2-3
  non-DRI versions 2-3

C

Color command (Output) 3-14
Color dialog (Output) 3-14
commands
  Quit 3-1
  Save as (Output) 3-5
  To App 1-2, 2-1, 5-1
  To Output 3-1, 4-2
commands (HiJaak)
  About 1-17
  Convert 1-7, 1-17
  Exit 1-17
  Help 1-6, 1-17
  Load Set File 1-16
  Modify Settings 1-15
  Save Settings As 1-17
commands (MAGICorp)
  Customer Info 4-3
  Global Background 4-6
  Media Selection 4-4
  Showstopper Shadows 4-11
  Transmission 4-9
  Work Order 4-7
commands (Output)
  Color 3-14
  File Label 3-9
  Film 3-13
  Global 3-7
  Network Settings 3-10
  New 3-7
  Open 3-5, 3-7
  Output Info 3-15
  Page Scale 3-8
  Paper Size 3-11
  Paper Tray 3-12
  Port Selection 3-13
  Quit 3-7
  Save 3-5, 3-7
  Save as 3-5, 3-7
  Save Preferences 3-10
  Screen 3-10
  To Key Draw! Plus 3-1, 3-7
Convert command (HiJaak) 1-7, 1-17
CONVERT PROCESSING LOG dialog 1-12
creating Output lists 3-5
Customer Info command (MAGICorp) 4-3
Customer Info dialog (MAGICorp) 4-3

D

DESTINATION FILES dialog (HiJaak) 1-10
DESTINATION FILES dialog (HiJaak) 1-13
dialogs (HiJaak)
  "Force EPS to Raster" 1-13
  advanced destination options 1-11
  CONVERT PROCESSING LOG 1-12
  DESTINATION FILES 1-10, 1-13
  DESTINATION OPTIONS 1-11
  EPS Destination Options 1-14
  MODIFY SETTINGS 1-16
  SELECT FILE TO BE

CONVERTED 1-7
SOURCE OPTIONS 1-9
dialogs (Key Draw! Plus)
Run Application 1-2
dialogs (MAGICorp)
Customer Info 4-3
Global Background 4-6
Media Selection 4-4
Showstopper Shadows 4-11
Transmission 4-9
Work Order 4-7
dialogs (Output)
Color 3-14
File Label 3-9
Film 3-13
Global Options 3-7
Output Info 3-15
Paper Size 3-11
Paper Tray 3-12
Port Selection 3-13
Printer Page Scale Options 3-8
Screen Preferences 3-10
displaying files (Output) 3-6
keyboard shortcuts for 3-11

E

EPS Destination Options (HiJaak) 1-14
Esc key 3-11
Exit command (HiJaak) 1-17
exiting HiJaak 1-12
exiting Output 3-1

F

file formats
bit-mapped 1-1
PostScript 1-1
raster 1-1
vector 1-1
File Label command (Output) 3-9
File Label dialog (Output) 3-9
File menu (Output) 3-7
File Selector (Output) 3-3
changing drive or directory 3-3
close box 3-4
files
printing 3-1
FILES TO PRINT list (Output) 4-4
changing filename order 3-2
duplicating filenames 3-3
scrolling 3-3
Film command (Output) 3-13
Film dialog (Output) 3-13
font filters 2-1
Adobe Type 1 fonts 2-7
Bitstream fonts 2-3
Fontographer fonts 2-8
starting with To App 2-1
font ID 2-5, 2-7, 2-8
duplicates 2-9
table C-1
font information 2-3
font weight 2-5
codes for BLDAF4 2-6
codes for FGF2AF4 2-8
codes for TP12AF4 2-7
Fontographer fonts
converting 2-8
fonts in files converted by HiJaak 1-9
FWARE.JOB 2-4

G

GEM file format 1-1
Global Background command (MAGICorp) 4-6
Global Background dialog (MAGICorp) 4-6
Global command (Output) 3-7
Global Options dialog (Output) 3-7

H

Hayes modem 4-1
Help command (HiJaak) 1-6, 1-17
HiJaak 1-1
"Force EPS to Raster" dialog 1-13
advanced destination options 1-11
application flavor 1-2
CONVERT PROCESSING LOG dialog 1-12
creating Adobe Illustrator-compatible files 1-14
creating PostScript printer files 1-15
creating Ventura-compatible files 1-14
destination directory 1-1
DESTINATION FILES dialog 1-10
destination format for Key Draw! Plus 1-1
destination options 1-11
EPS Destination Options dialog 1-14
exiting 1-12
file conversion overview 1-7

fonts 1-9
Form Feed option (EPS Destination Options dialog) 1-14
Help system 1-5, 1-6
keyboard interface 1-4
mouse interface 1-3
PostScript conversion 1-13
Save Log option 1-12
selecting destination file format 1-10
selecting files for conversion 1-7
setting default options and paths 1-16
setting source options 1-9
SOURCE OPTIONS dialog 1-9
starting 1-2
using serial mouse 1-4
Viewable option (EPS Destination Options dialog) 1-14

I

INF file 3-10

K

kerning information files (AFM) 2-3, 2-7
keyboard shortcuts (Output)
for displaying files 3-11

L

LIS file extension 3-5
Load Set File command (HiJaak) 1-16

M

MAGICorp
camera driver 4-1
camera service 4-1
color laser prints 4-5
color transparencies 4-5
icon in Output Devices Window 4-2
photographic types 4-5
preparing pictures for 4-2
RGB values with 4-6
sending files to 4-2
Showstopper catalog 4-7
site code 4-1, 4-3
slide types 4-5
telephone numbers 4-1
use of modems with 4-10
Media Selection command (MAGICorp) 4-4
Media Selection dialog (MAGICorp) 4-4
modem, use of with MAGICorp 4-1, 4-10
Modify Settings command (HiJaak) 1-15
MODIFY SETTINGS dialog (HiJaak) 1-15
MOUSE.COM 1-3

N

Network Settings command (Output) 3-10
New command (Output) 3-7

O

Open command (Output) 3-5, 3-7
Output
"Abandon/Save" alert 3-8
adding names to list 3-2
choosing commands from the keyboard 3-6
Confirm .LIS changes option 3-8
Copies button 3-2, 3-3
DEVICES window 3-2
Esc key 3-6
File Selector 3-2, 3-3
FILES TO PRINT list 3-2
getting files from another drive or directory 3-3
menu bar 3-2
multiple copies 3-3
printing a page range 3-8
quitting 3-1
Remove name button 3-2
removing names from list 3-2
screen components 3-2
START button 3-2
starting 3-1
title bar 3-2
Output Info command 3-15
Output Info dialog (Output) 3-15
Output lists
creating 3-5
opening 3-5

P

Page Scale command(Output) 3-8
Paper Size command (Output) 3-11
Paper Size dialog (Output) 3-11
Paper Tray command (Output) 3-12
Paper Tray dialog (Output) 3-12

PFA files
converting 2-3
PFB files
converting 2-7
PFI files 2-3
Port Selection command (Output) 3-13
Port Selection dialog (Output) 3-13
PostScript conversion (Hijaak) 1-13
PostScript files 1-1
Preferences menu (Output)
MAGICorp 4-2
printers and plotters 3-11, 3-12
screens 3-10
Printer Page Scale Options dialog (Output) 3-8
printing with Output 3-1
PSFONTS subdirectory 2-4

Q

Quit command 3-1
Quit command (Output) 3-7

R

raster files 1-1
RGB settings (Output) 3-15
Run Application dialog 1-2

S

Save as command (Output 3-5
Save as command (Output) 3-5, 3-7
Save command (Output) 3-5, 3-7
Save Log option (Hijaak) 1-12
Save Preferences command (Output) 3-10
Save Settings As command (Hijaak) 1-17
Screen command (Output) 3-10
Screen Preferences dialog (Output) 3-10
SELECT FILE TO BE CONVERTED dialog 1-7
serial mouse
using with Hijaak 1-4
Showstopper Shadows command (MAGICorp) 4-11
Showstopper Shadows dialog (MAGICorp) 4-11
SOURCE OPTIONS dialog 1-9
starting Output 3-1
SYF2GEM
parameters 5-2
quitting 5-4
starting 5-1
SYF2GEM.APP 5-1
symbol files
after conversion 5-4

T

To App command 1-2, 2-1, 5-1
To Key Draw! Plus command 3-7
To Key Draw! Plus command (Output) 3-1
To Output command 3-1, 4-2
Transmission command (MAGICorp) 4-9
Transmission dialog (MAGICorp) 4-9

V

vector files 1-1

W

Work Order command (MAGICorp) 4-7
job summary file option 4-8
turnaround times 4-8
Work Order dialog (MAGICorp) 4-7

KEY Draw! Plus

Clip Art Gallery

softkey

Changing The Way America Buys Software

Table of Contents

Preface iii
How This Book Is Organized iii
Assumptions iv
General Information v

Using Clip Art 1-1
Accessing Clip Art 1-1
Clip Art File Types 1-2
Bit Image Files 1-2
Opening Clip Art 1-3
Saving Clip Art 1-3

3G Graphics, Inc. 2-1
Company Address 2-1
Clip Art Subdirectory 2-1
Copyright Information 2-1

Acebo 3-1
Company Address 3-1
Clip Art Subdirectory 3-1

ArtRight Software Corporation 4-1
Company Address 4-1
Clip Art Subdirectory 4-1
Copyright Information 4-1

Dream Maker Software 5-1
Company Address 5-1
Clip Art Subdirectory 5-1
Copyright Information 5-2

Marketing Graphics Incorporated **6-1**
Company Address 6-1
Clip Art Subdirectory 6-1
Copyright Information 6-2

Metro ImageBase **7-1**
Company Address 7-1
Clip Art Subdirectory 7-1
Copyright Information 7-2

One Mile Up **8-1**
Company Address 8-1
Clip Art Subdirectory 8-1
Copyright Information 8-1

T/Maker Company **9-1**
Company Address 9-1
Clip Art Subdirectory 9-1
Copyright Information 9-1

Preface

This book describes the *clip art* included with the **Key *Draw! Plus*®**, Version 2.0 package. Clip art is a term that describes ready-made graphics that you can use in **Key *Draw! Plus***.

The **Key *Draw! Plus*** Clip Art Gallery contains approximately 200 graphics (pictures) of the collections of clip art commercially available to you from eight of the leading clip art suppliers in North America.

After you open the clip art in **Key *Draw! Plus***, you can use it "as is" or edit it to modify them. With the **Key *Draw! Plus*** tools, you can enhance the picture to personalize it to suit your needs.

How This Book Is Organized

This selection of clip art is provided by a variety of creators covering a broad range of subjects.

Chapter 1 describes how to access and save the provided clip art.

Chapters 2 through 9 group the clip art by the creator company and include the following information:

- the company's name and address, so that you can order additional clip art
- the name of the subdirectory in which the clip art is located on your hard disk after installation with the **Key *Draw! Plus*** Setup program
- information about the clip art: whether it is available in color, the file types supported in **Key *Draw! Plus***, and so on
- copyright information about reproducing a company's clip art
- an illustration of each piece of clip art provided with **Key *Draw! Plus***

Appendix A provides information about using additional clip art that is not included with **Key *Draw! Plus***.

Assumptions

This book assumes you have installed **Key *Draw! Plus*** and are familiar with the terminology and concepts described in the **Key *Draw! Plus*** Tutorial and Chapter 1 of the **Key *Draw! Plus*** User Reference Guide.

Assumptions

This book assumes you have installed **Key *Draw! Plus*** and are familiar with the terminology and concepts described in the **Key *Draw! Plus*** Tutorial and Chapter 1 of the **Key *Draw! Plus*** User Reference Guide.

General Information

Clip Art

The **Key *Draw! Plus*** clip art is provided in two formats, GEM and encapsulated PostScript® (EPS), for which the file extensions are .GEM and .EPS respectively. However, the default extensions in the Item Selector are .GEM and .AI (for the Adobe® Illustrator EPS format).

To open or merge clip art files with the .EPS extension, add *.EPS to the Directory Line in the Item Selector. Follow these steps:

1. Move the cursor to the Directory line in the Item Selector.
2. If you want the Item Selector to list all files with the .GEM, .AI, or .EPS, type, *.EPS. The Directory line should then end "*.GEM,*.AI,*.EPS."
   If you want the Item Selector to list only files with the .EPS extension, press the Backspace key to delete the string "*.GEM, *.AI." Do not delete the path information and the final backslash. Then type *.EPS.
3. Press ↵ or click in the list window to update the list of filenames.
4. Open one of the clip art directories and then open one of the .EPS files.
5. Display the Options menu and choose the **Save Prefernces** command.

From then on, the Item Selector will include *.EPS on the Directory line when you choose the **Open** or **Merge File** command.

Using Clip Art

This chapter describes how to open and save the clip art distributed with **Key *Draw! Plus***. The clip art shown in the following chapters is installed with the Setup program. See the **Key *Draw! Plus*** Installation/Startup/Tutorial for more information about installing clip art.

After you load the clip art in **Key *Draw! Plus***, you can use its powerful tools to reshape, color, separate, skew, and rotate the picture. See the **Key *Draw! Plus*** User Reference Guide for information on how to use the **Key *Draw! Plus*** tools.

Accessing Clip Art

The Setup program installed the clip art on your hard disk in subdirectories organized by company or product name. To locate the clip art, look in a subdirectory of the following form:

\KEYDRAW!\ARTWORK\<clip_name>

where <clip_name> is the company's collection of clip art. The following table lists the companies' names and their respective subdirectories.

company	subdirectory
3G Graphics, Inc.	3GSAMPLE
Acebo™	ACEBO
ArtRight™ Software Corporation	ARTRIGHT
Dream Maker Software®	CLIPTURE
Marketing Graphics Incorporated	PICTURE.PAK
Metro ImageBase®	METRO
One Mile Up	FEDERAL
T/Maker Company®	CLICKART

For example, the path for accessing the PANDA.EPS clip art file from T/Maker is the following:

C:\KEYDRAW!\ARTWORK\CLICKART PANDA.EPS

Clip Art File Types

The clip art provided in the **Key *Draw! Plus*** collection is in the following file types.

- GEM — **Key *Draw! Plus*** internal format
- AI EPS — Adobe® Illustrator™ Encapsulated PostScript™
- CGM — Computer Graphics Metafile

The companies might provide additional file types, however only those listed have been verified to work in **Key *Draw! Plus***.

Key *Draw! Plus* can read .GEM and AI EPS file formats directly. The **Key *Draw! Plus*** clip art collection reflects both direct and indirect formats, in that it contains both GEM and AI EPS files, as well as CGM files converted through the Hijaak™ file conversion utility software. You can use Hijaak to expand your clip art collection by converting files such as CGM to GEM, and then to load them into **Key *Draw! Plus***.

Bit Image Files

Additional clip art supplied by the companies might be in the following file types:

- TIF — Tag Image File Format (or TIFF)
- PCX — PC Paintbrush™ file

These file types can only be opened in **Key *Draw! Plus*** with the **Load Image** command. In **Key *Draw! Plus***, the clip art can only be traced.

NOTE: Bitmapped files that contain graduated shading densities must be traced with the Quill tool in **Key *Draw! Plus***. *Line art as well as color and grayscale solid-zone bitmaps can be autotraced.*

Opening Clip Art

To open a clip art file in **Key *Draw! Plus***, use the **Open** or **Merge File** command from the File menu as described in the **Key *Draw! Plus*** User Reference Guide.

- Use **Open** to load a single clip art picture as a single **Key *Draw! Plus*** document.
- Use **Merge File** to load multiple clip art into an existing **Key *Draw! Plus*** document.

NOTE: The default setting for the Layer Manager is to display only the active (most recently loaded) picture. When you use **Merge File**, *the last clip art picture loaded appears in the active layer.*

To see through the layers and view all layers, follow these steps:

① Select the Layer Manager from the Options Menu. Pull down the Display Menu and choose **All**.
② Close the Layer Manager.

To select a picture that is not active, use the Layer Tool to change layers. For more information about the Layer Manager and Layer tool, see the **Key *Draw! Plus*** User Reference Guide.

You can then work on the file as you want in **Key *Draw! Plus*** and save your edited picture.

Saving Clip Art

To save a clip art file as an **Key *Draw! Plus*** picture, use the **Save As** command as described in the **Key *Draw! Plus*** User Reference Guide.

WARNING: If you use the **Save** *command, instead of* **Save As**, **Key *Draw! Plus*** *will overwrite your original clip art picture. If your original is overwritten, you can only recover the original by reinstalling the clip art. If you attempt to use* **Quit**, **Open**, **New**, *or* **Abandon** *without previously saving with the* **Save As** *command,* **Key *Draw! Plus*** *will prompt you to abandon, save, or cancel. Select* **Cancel** *and return to the file and select* **Save As**, *unless you want to abandon the file.*

3G Graphics, Inc.

The clip art illustrated in this chapter is from 3G Graphics, Inc. The 3G Graphics, Inc. collection of clip art includes 24 pieces in AI EPS file format.

Company Address

For information about additional clip art from 3G Graphics, Inc., contact

3G Graphics, Inc.
11410 NE 124th Street, Suite 6155
Kirkland, WA 98034
(800) 456-0234
FAX (206) 364-3736

Clip Art Subdirectory

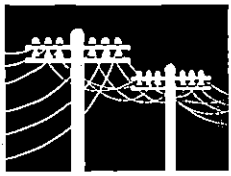
The clip art from 3G Graphics, Inc. is located in the following subdirectory on your hard disk:

KEYDRAW!\ARTWORK\3GSAMPLE

Formats Available to **Key *Draw! Plus***:	AI EPS
Total Number of Images in Library:	535
Number of Products:	3
Names of Products:	Accents and Borders 1, Graphics and Symbols 1, Business 1
Subscription:	No
Color/Black & White:	Both
Bezier Curves:	Yes
Graduated Shading:	Yes

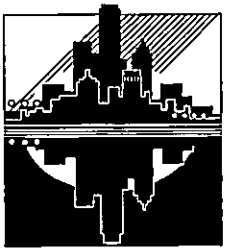
Copyright Information

Copyright © 1987-1989 3G Graphics, Inc.
Images with Impact! is a trademark of 3G Graphics, Inc.



POWERLINE.EPS

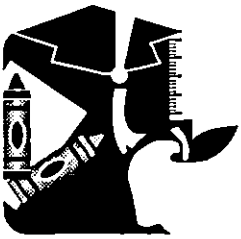
MANDOLLR.EPS



CITYSCPE.EPS

FOODCOLL.EPS

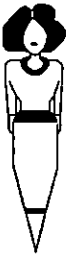
DINING.EPS



EDUCAT.EPS

FLYACE.EPS

F_STYLSH.EPS

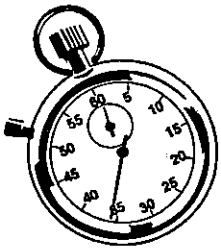


WOMAN.EPS

MAN.EPS

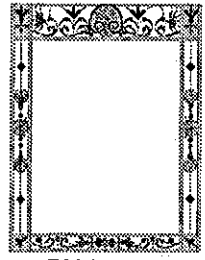
TROPVBOX.EPS

TROPVBAR.EPS

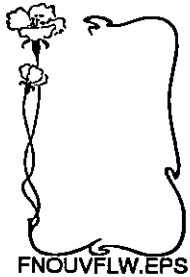


STOPWTCH.EPS

SANIMALS.EPS



FGLASSC.EPS

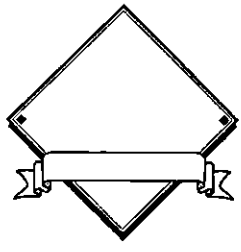


FNOUVFLW.EPS

TROPBAR.EPS

TROPHBOX.EPS

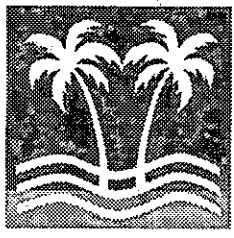
FCERTIF3.EPS



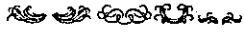
LDIAMOND.EPS

BBAMBOO.EPS

BEGYPT.EPS



TROPTILE.EPS



OFLOURSH.EPS

Acebo

The clip art illustrated in this chapter is from Acebo. The Acebo collection of clip art includes 12 pieces in GEM file format.

Company Address

For information about additional clip art from Acebo, contact

Acebo
P.O. Box 7485
Spreckels, CA 93962
(408) 455-1507
FAX (408) 455-1541

Clip Art Subdirectory

The clip art from Acebo is located in the following subdirectory on your hard disk:

KEYDRAW!\ARTWORK\ACEBO

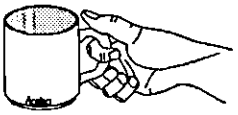
Formats Available to **Key *Draw! Plus***:	GEM, AI EPS
Total Number of Images in Library:	349
Number of Products:	2
Names of Products:	Ready Hands™, Jim's Junk Drawer™
Subscription:	No
Color/Black & White:	Black & White only
Bezier Curves:	Yes
Graduated Shading:	Yes

Copyright Information

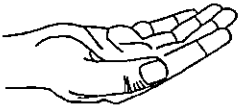
Copyright © 1990 Acebo.

Acebo, Ready Hands, and Jim's Junk Drawer are trademarks of Acebo.

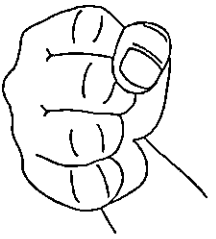
You may incorporate any or all of the artwork contained in the Acebo directory on an "as is" basis into documents of your own creation so long as any such document contains a notice to the effect that "some or all of the artwork contained in this document copyright © 1990 Acebo." Should you chose to modify any or all of the artwork contained in the Acebo directory, it must bear a notice to the effect that "some or all of the artwork contained in this document is based on artwork copyright © 1990 Acebo."



CFECUP1R.GEM

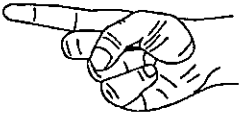


CUPT1R.GEM



FIST2R.GEM

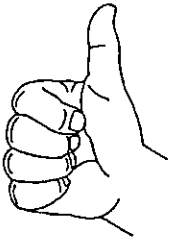
OKR.GEM



POINT1R.GEM

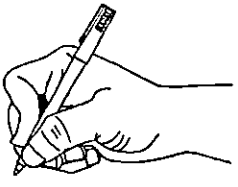
STOPR.GEM

THINK1R.GEM



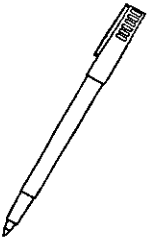
THMBUPR.GEM

TWOR.GEM



WRITE1R.GEM

XED1R.GEM



PEN.GEM

ArtRight Software Corporation

THE clip art illustrated in this chapter is from ArtRight Software Corporation. The ArtRight Software Corporation collection of clip art includes 36 pieces in GEM file format.

Company Address

For information about additional clip art from ArtRight Software Corporation, contact

ArtRight Software Corporation
1130 Morrison Drive
Ottawa, Ontario, Canada K2H 9N6
(613) 820-1000
FAX (613) 820-2651

Clip Art Subdirectory

The clip art from ArtRight Software Corporation is located in the following subdirectory on your hard disk:

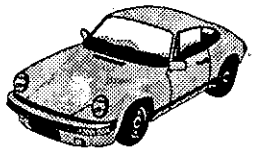
KEYDRAW!\ARTWORK\ARTRIGHT

Formats Available to **Key *Draw! Plus*:**	GEM, AI EPS, CGM
Total Number of Images in Library:	7500
Number of Products:	8
Names of Products:	Volume 1, Volume 2, Animals 1, Technology 1, People 1, World Flags, Borders 1, Transportation 1
Subscription:	Yes
Color/Black & White:	Both
Bezier Curves:	GEM and AI EPS
Graduated Shading:	Yes

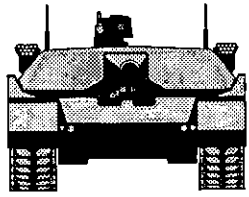
Copyright Information

ArtRight Image Portfolios™ Copyright © 1990. All Rights Reserved.
ArtRight and ArtRight Image Portfolios are trademarks of ArtRight Software Corporation.

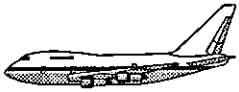
300ZX.GEM



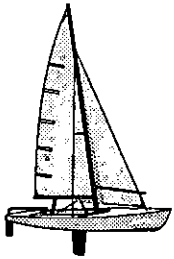
PORSCHE.GEM



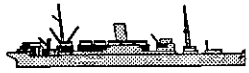
TANK01.GEM



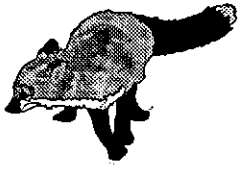
747.GEM



SAILBOAT.GEM



SHIP2.GEM



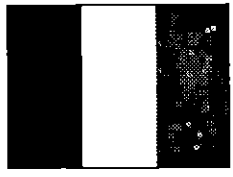
FOX1.GEM

FISHSCOR.GEM

OSTRICH.GEM

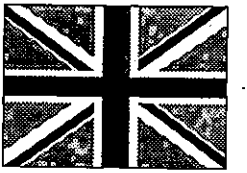
ZEBRA.GEM

COLUMBIA.GEM

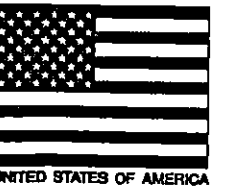


PAGE5D4.GEM

PAGE13C1.GEM



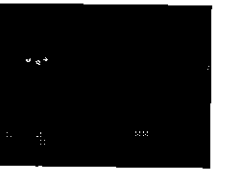
PAGE15B5.GEM



PAGE1C3.GEM

PAGE3A4.GEM

PAGE3C3.GEM



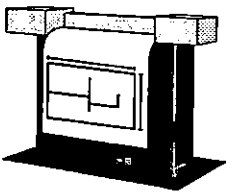
PAGE6B1.GEM

DANCER.GEM

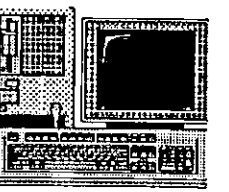
GOLFING.GEM

CLIMBFEM.EPS

LAPTOP01.GEM



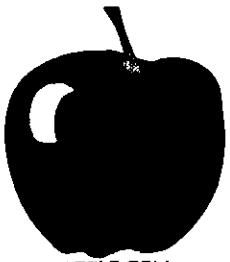
PLOTER01.GEM



SAN386.GEM

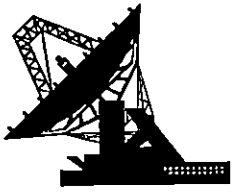
BAGS.GEM

TREE.GEM



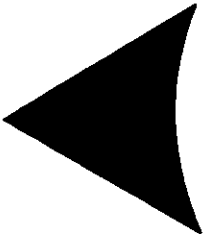
APPLE.GEM

TRUMPET.GEM



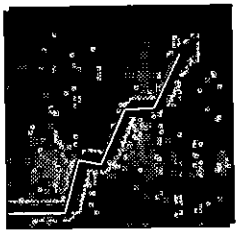
DISH02.GEM

S3.GEM

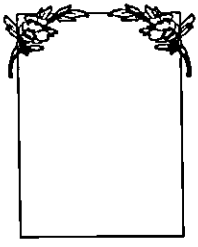


ARROW2.GEM

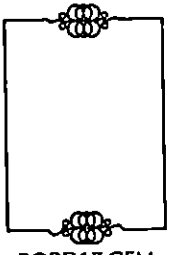
BUBBLE1.GEM



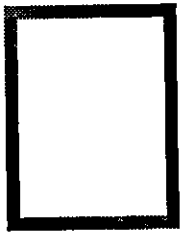
UPGRID.GEM



BORD06.GEM



BORD17.GEM



BORDS101.GEM

Dream Maker Software

THE clip art illustrated in this chapter is from Dream Maker Software. The Dream Maker Software collection of clip art includes 24 pieces in AI EPS file format.

Company Address

For information about additional clip art from Dream Maker Software, contact

Dream Maker Software
7217 Foothill Blvd.
Tujunga, CA 91042-9988
(818) 353-2297
FAX (818) 353-6988

Clip Art Subdirectory

The clip art from Dream Maker Software is located in the following directory on your hard disk:

KEYDRAW!\ARTWORK\CLIPTURE

Formats Available in **Key *Draw! Plus*:**	AI EPS
Total Number of Images in Library	582
Number of Products:	2
Names of Products:	Cliptures™1, Cliptures 2
Subscription:	No
Color/Black & White	Black & White only
Bezier Curves:	Yes
Graduated Shading:	Yes

Copyright Information

Copyright © 1989 Dream Maker Software.

Dream Maker Software is a registered trademark and Cliptures is a trademark of Dream Maker Software.

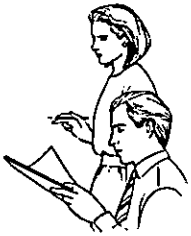
This clip art sampler from Cliptures, Volumes 1, 2, and 3, is provided by Dream Maker Software for registered users of **Key *Draw! Plus***. Permission is granted to use these images so long as they include "Copyright 1989 Dream Maker Software". If you find these illustrations useful and want more information on the entire Cliptures series, please call Dream Maker Software toll free at (800) 876-5665 or (818) 353-2297 and ask for a catalog. Cliptures clip art collections are available from Dream Maker Software and through software dealers worldwide. Multi-user site licenses are also available.

All Cliptures software is under copyright of Dream Maker Software 7217 Foothill Boulevard; Tujunga, California 91042. (818) 353-2297

CV1008.EPS

CV1011.EPS

CV2035.EPS


CV2043.EPS

CV2049.EPS

CV2070.EPS

CV1023.EPS

CV1025.EPS

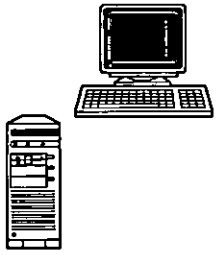
CV2089.EPS

CV1052.EPS

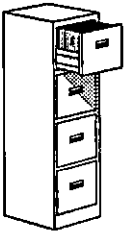
CV3086.EPS

CV3190.EPS

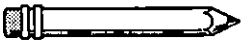
CV1061.EPS



CV2131.EPS

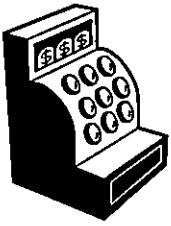


CV1063.EPS



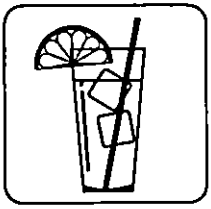
CV1069.EPS

CV1081.EPS

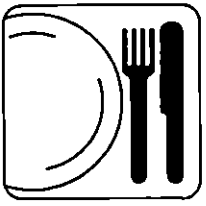


CV2055.EPS

CV1114.EPS



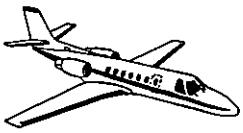
CV1115.EPS



CV1119.EPS

CV2120.EPS

CV1091.EPS



CV2082.EPS

Marketing Graphics Incorporated

The clip art illustrated in this chapter is from Marketing Graphics Incorporated. The Marketing Graphics Incorporated collection of clip art includes 24 pieces in GEM file format. The clip art in this collection was converted to GEM format through the Hijaak file conversion utility software.

Company Address

For information about additional clip art from Marketing Graphics Incorporated, contact

Marketing Graphics Incorporated
4401 Dominion Blvd., Suite 210
Glen Allen, VA 23060-3379
(804) 747-6991
FAX (804) 747-0879

Clip Art Subdirectory

The clip art from Marketing Graphics Incorporated is located in the following directory on your hard disk:

KEYDRAW!\ARTWORK\PICTURE.PAK

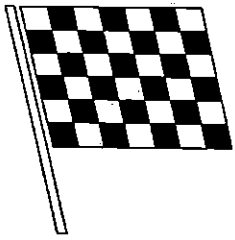
Formats Available to **Key *Draw! Plus*:**	CGM
Total Number of Images in Library:	1000
Number of Products:	6
Names of Products:	Eye Openers Series: Executive and Management Edition, Sales and Marketing Edition, Finance and Administration Edition. USA Series: Federal Government, State and Local Government, USA Maps and Landmarks
Subscription:	No
Color/Black & White:	Black & White only
Bezier Curves:	No
Graduated Shading:	No

Copyright Information

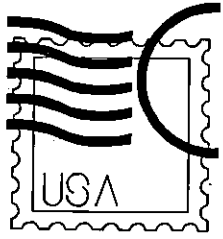
Copyright © 1988, 1989, 1990 Marketing Graphics Incorporated.

PicturePak is a trademark of Marketing Graphics Incorporated.

Clip art images displayed here represent a sampling from the PicturePak clip art libraries from Marketing Graphics Incorporated (MGI), 4401 Dominion Blvd., Ste. 210, Glen Allen, VA 23060. (804) 747-6991 © 1988, 1989, 1990

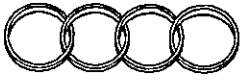


EX0105.GEM

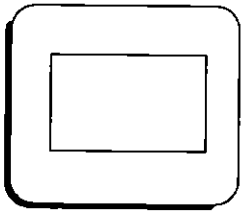


EX0148.GEM

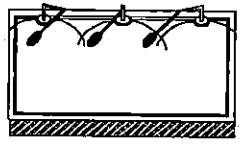
EX0260.GEM



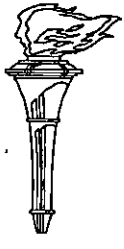
EX0261.GEM



EX0268.GEM

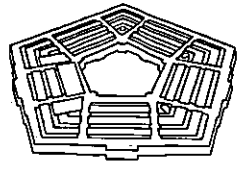


EX0269.GEM



FE0128.GEM

FE0140.GEM



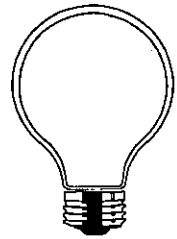
FE0192.GEM

FE0216.GEM

FE0272.GEM

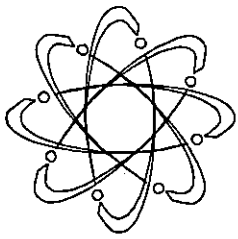
FE0279.GEM

FI0140.GEM

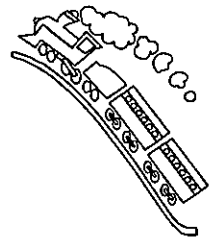


FI0181.GEM

FI0199.GEM

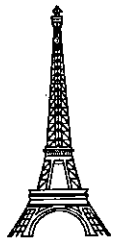


FI0279.GEM

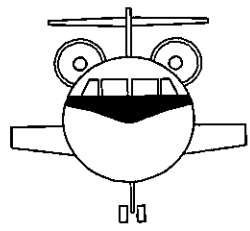


SA0111.GEM

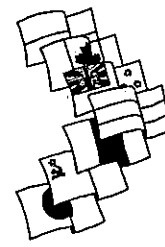
SA0197.GEM



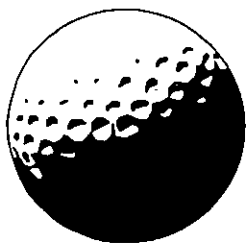
SA0198.GEM



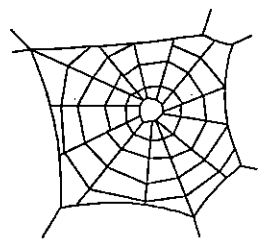
SA0232.GEM



SA0240.GEM



SA0266.GEM



FI0212.GEM

FI0223.GEM

Metro ImageBase

THE clip art illustrated in this chapter is from Metro ImageBase. The Metro ImageBase collection of clip art includes 24 pieces in AI EPS file format.

Company Address

For information about additional clip art from Metro ImageBase, contact

Metro ImageBase
18623 Ventura Blvd.
Tarzana, CA 91356
(818) 881-1997

Clip Art Subdirectory

The clip art from Metro ImageBase is located in the following directory on your hard disk:

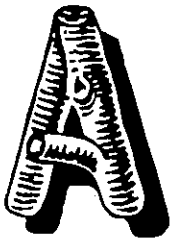
KEYDRAW!\ARTWORK\METRO

Formats Available to **Key *Draw! Plus***:	AI EPS, CGM, TIF, PCX (For TIF and PCX files, use **Load Image** from the Image Menu. These file types can only be traced in **Key *Draw! Plus***.)
Total Number of Images in Library:	3000
Number of Products:	16
Names of Products:	Travel, Weekend Sports, ReportMaker, People, Nine to Five, The Four Seasons, NewsletterMaker, Food, Exercise & Fitness, Computers & Technology, Business Graphics, Borders & Boxes, Art Deco, Headings, Alphabets, Team Sports
Subscription:	No
Color/Black & White:	Black & White only
Bezier Curves:	AI EPS
Graduated Shading:	No

Copyright Information

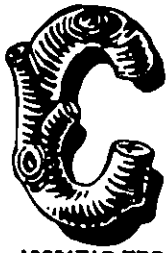
Copyright © 1988, 1989, 1990 Metro Creative Graphics, Inc. All rights reserved.

Metro ImageBase is a registered trademark of Metro Creative Graphics, Inc.

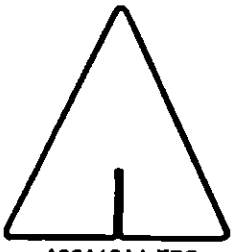


A86917AA.EPS

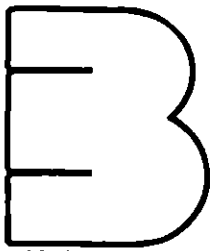
A86917AB.EPS



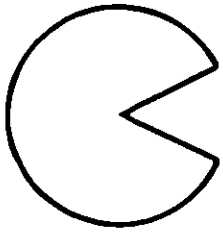
A86917AC.EPS



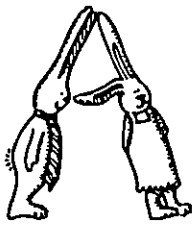
A86A16AA.EPS



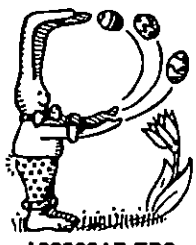
A86A16AB.EPS



A86A16AC.EPS

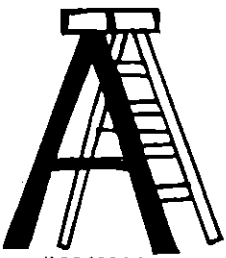


A88323AA.EPS

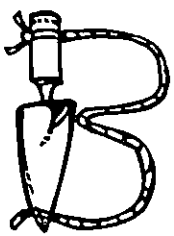


A88323AB.EPS

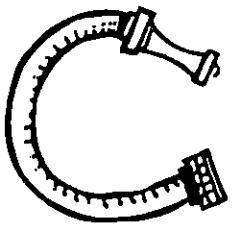
A88323AC.EPS



A88423AA.EPS



A88423AB.EPS



A88423AC.EPS

N86224AA.EPS

N86224AB.EPS

N86224AC.EPS

N87B28AA.EPS

N87B28AB.EPS

N87B28AC.EPS

N8754109.EPS

A8690413.EPS

H88C1402.EPS

N8721014.EPS

N893440.EPS

N8963480.EPS

One Mile Up

The clip art illustrated in this chapter is from One Mile Up. The One Mile Up collection of clip art includes 24 pieces in AI EPS file format.

Company Address

For information about additional clip art from One Mile Up, contact

One Mile Up
7011 Evergreen Court
Annandale, Virginia 22003
(703) 642-1177

Clip Art Subdirectory

The clip art from One Mile Up is located in the following directory on your hard disk:

KEYDRAW!\ARTWORK\FEDERAL

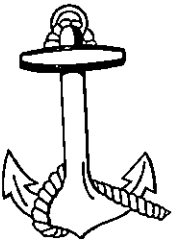
Formats Available to **Key *Draw! Plus*:**	AI EPS
Total Number of Images in Library:	1000
Number of Products:	3
Names of Products:	Federal Clip Art®, Federal Clip Art II™ - Aerospace Art, Federal Clip Art III™ - Naval Art
Subscription:	No
Color/Black & White:	Both
Bezier Curves:	Yes
Graduated Shading:	Yes

Copyright Information

Copyright © 1989 One Mile Up.
Federal Clip Art is a registered trademark and Federal Clip Art II and Federal Clip Art III are trademarks of One Mile Up.

757ESTRN.EPS

PHANTOM.EPS



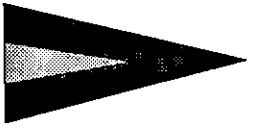
ANCHOR1.EPS

ARYMYSEAL.EPS

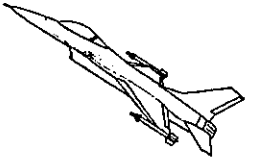
BANNER4.EPS

BNBRIDGE.EPS

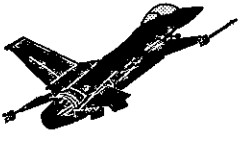
C141C.EPS



1ST_SUB.EPS

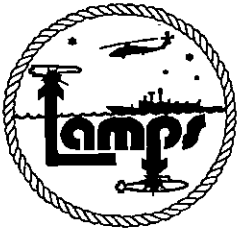


F16CLIMB.EPS



F16UPBLK.EPS

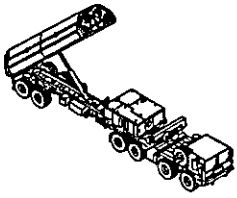
IBMPS2.EPS



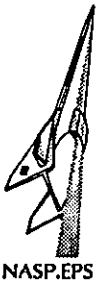
LAMPS.EPS

F4.EPS

MK46.EPS

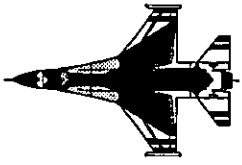


MOB_LNCH.EPS



NASP.EPS

OSCAR.EPS



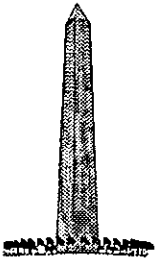
THNDRBRD.EPS

STFSGT.EPS

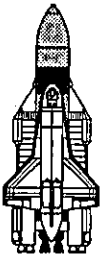
TRAWAREV.EPS

USCG_MAN.EPS

USCG_200.EPS



WASH_MON.EPS



EUSSRSHT.EPS

T/Maker Company

The clip art illustrated in this chapter is from T/Maker Company. The T/Maker Company collection of clip art includes 24 pieces in AI EPS file format.

Company Address

For information about additional clip art from T/Maker Company, contact

T/Maker Company
1390 Villa Street
Mountain View, CA 94041
(415) 962-0195
FAX (415) 962-0201

Clip Art Subdirectory

The clip art from T/Maker Company is located in the following directory on your hard disk:

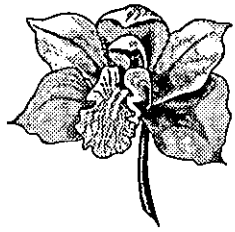
KEYDRAW!\ARTWORK\CLICKART

Formats Available to **Key *Draw! Plus***:	AI EPS
Total Number of Images in Library:	600
Number of Products:	3
Names of Products:	Business Art, Illustrations, Animals and Nature
Subscription:	Yes
Color/Black & White:	Black & White only
Bezier Curves:	Yes
Graduated Shading:	Yes

Copyright Information

ClickArt® Images Copyright © 1987 - 1990 T/Maker Company. All rights reserved.

T/Maker and ClickArt are registered trademarks of T/Maker Company.



FLOWER2.EPS

PALMTREE.EPS

PLANT.EPS

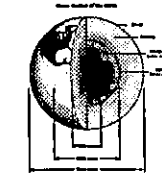
PARROT.EPS

PANDA.EPS

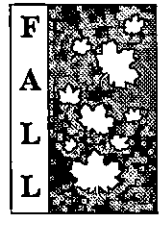
TROUT.EPS

COAST.EPS

FLORIDA.EPS



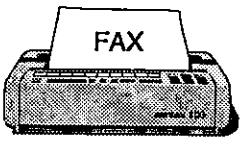
GLOBE1.EPS



SEASON.EPS

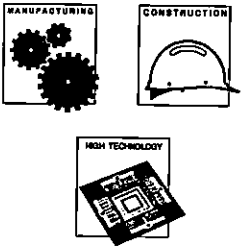
SHELL.EPS

BORDER3.EPS

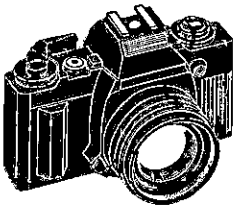


FAX

FAX.EPS



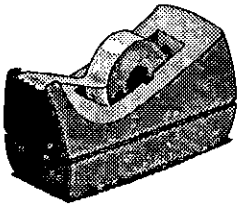
OCCUPAT.EPS



CAMERA_2.EPS

SLIDE.EPS

DINGBAT1.EPS



TAPE.EPS

PIANO.EPS

BASEBALL.EPS

HORN.EPS

SAIL_BOA.EPS

MAN.EPS

PORSCHE.EPS

Usage Notes

This appendix describes a situation you might encounter if you use clip art other than that provided with **Key *Draw! Plus***. If your clip art contains elements with more than 255 points, **Key *Draw! Plus*** displays the following message:

> **This file contains elements with more than 255 points. These elements will be converted to unfilled line segments with fewer than 255 points.**

In some cases, the resulting elements will be acceptable as converted, but in others, a dividing line or other visual artifact will alter the appearance of the picture. This appendix describes how to work with these converted elements to achieve your desired results.

255-Point Limit

Key *Draw! Plus* is designed to work on a complete range of printers from desktop laser printers to high-end PostScript-based typesetting devices. Many of these PostScript-based typesetting devices do not accept picture elements with large numbers of points even though they are supported by the desktop laser printers. Thus, some applications can create picture elements that preview well on a screen and proof-print well on a desktop laser printer, but exceed the capacity on a typesetter, and do not print.

Key *Draw! Plus* resolves this capacity limitation by converting complex elements to simpler elements. When **Key *Draw! Plus*** encounters an element with more than 255 points, it breaks the element two or more elements of 255 points or less and displays the message shown above.

Changing the Converted Element

You can restore the appearance of an unfilled original element as follows.

① Clone the newly created elements: use one set for the outline and one set for the fill.
In the outline set, turn fill off. In the fill set, turn outline off.

② Now, edit the pictures to remove the lines that pass through the objects and realign the elements.

The new elements now simulate the appearance of the original element, and will print successfully on most devices.

ClipArt Index

3G Graphics, Inc.

BBAMBOO.EPS 2-3
BEGYPT.EPS 2-3
CITYSCPE.EPS 2-2
DINING.EPS 2-2
EDUCAT.EPS 2-2
FCERTIF3.EPS 2-3
FGLASSC.EPS 2-3
FLYACE.EPS 2-2
FNOUVFLW.EPS 2-3
FOODCOLL.EPS 2-2
F_STYLSH.EPS 2-2
LDIAMOND.EPS 2-3
MAN.EPS 2-2
MANDOLLR.EPS 2-2
OFLOURSH.EPS 2-3
POWERLINE.EPS 2-2
SANIMALS.EPS 2-3
STOPWTCH.EPS 2-3
TROPBAR.EPS 2-3
TROPHBOX.EPS 2-3
TROPVBAR.EPS 2-2
TROPVBOX.EPS 2-2
TROPTILE.EPS 2-3
WOMAN.EPS 2-2

Acebo

CFECUP1R.GEM 3-2
CUPT1R.GEM 3-2
FIST2R.GEM 3-2
OKR.GEM 3-2
POINT1R.GEM 3-2
STOPR.GEM 3-2
THINK1R.GEM 3-2
THMBUPR.GEM 3-2
TWOR.GEM 3-2
WRITE1R.GEM 3-2
XED1R.GEM 3-2
PEN.GEM 3-2

ArtRight Software Company

300ZX.GEM 4-2
PORSCHE.GEM 4-2
TANK01.GEM 4-2
747.GEM 4-2
SAILBOAT.GEM 4-2
SHIP2.GEM 4-2
FOX1.GEM 4-2
FISHSCOR.GEM 4-2
OSTRICH.GEM 4-2
ZEBRA.GEM 4-2
COLUMBIA.GEM 4-2
PAGE5D4.GEM 4-2
PAGE13C1.GEM 4-3
PAGE15B5.GEM 4-3
PAGE1C3.GEM 4-3
PAGE3A4.GEM 4-3
PAGE3C3.GEM 4-3
PAGE6B1.GEM 4-3
DANCER.GEM 4-3
GOLFING.GEM 4-3
CLIMBFEM.EPS 4-3
LAPTOP01.GEM 4-3
PLOTER01.GEM 4-3
SAN386.GEM 4-3
BAGS.GEM 4-4
TREE.GEM 4-4
APPLE.GEM 4-4
TRUMPET.GEM 4-4
DISH02.GEM 4-4
S3.GEM 4-4
ARROW2.GEM 4-4
BUBBLE1.GEM 4-4
UPGRID.GEM 4-4
BORD06.GEM 4-4
BORD17.GEM 4-4
BORDS101.GEM 4-4

Dream Maker Software

CV1008.EPS 5-3
CV1011.EPS 5-3
CV2035.EPS 5-3
CV2043.EPS 5-3
CV2049.EPS 5-3
CV2070.EPS 5-3
CV1023.EPS 5-3
CV1025.EPS 5-3
CV2089.EPS 5-3
CV1052.EPS 5-3
CV3086.EPS 5-3
CV3190.EPS 5-3
CV1061.EPS 5-4
CV2131.EPS 5-4
CV1063.EPS 5-4
CV1069.EPS 5-4
CV1081.EPS 5-4
CV2055.EPS 5-4
CV1114.EPS 5-4
CV1115.EPS 5-4
CV1119.EPS 5-4
CV2120.EPS 5-4
CV1091.EPS 5-4
CV2082.EPS 5-4

Marketing Graphics Incorporated

EX0105.GEM 6-3
EX0148.GEM 6-3
EX0260.GEM 6-3
EX0261.GEM 6-3
EX0268.GEM 6-3
EX0269.GEM 6-3
FE0128.GEM 6-3
FE0140.GEM 6-3
FE0192.GEM 6-3
FE0216.GEM 6-3
FE0272.GEM 6-3
FE0279.GEM 6-3
FI0140.GEM 6-4
FI0181.GEM 6-4
FI0199.GEM 6-4
FI0279.GEM 6-4
SA0111.GEM 6-4
SA0197.GEM 6-4
SA0198.GEM 6-4
SA0232.GEM 6-4
SA0240.GEM 6-4
SA0266.GEM 6-4
FI0212.GEM 6-4
FI0223.GEM 6-4

Metro ImageBase

A86917AA.EPS 7-3
A86917AB.EPS 7-3
A86917AC.EPS 7-3
A86A16AA.EPS 7-3
A86A16AB.EPS 7-3
A86A16AC.EPS 7-3
A88323AA.EPS 7-3
A88323AB.EPS 7-3
A88323AC.EPS 7-3
A88423AA.EPS 7-3
A88423AB.EPS 7-3
A88423AC.EPS 7-3
N86224AA.EPS 7-4
N86224AB.EPS 7-4
N86224AC.EPS 7-4
N87B28AA.EPS 7-4
N87B28AB.EPS 7-4
N87B28AC.EPS 7-4
N8754109.EPS 7-4
A8690413.EPS 7-4
H88C1402.EPS 7-4
N8721014.EPS 7-4
N893440.EPS 7-4
N8963480.EPS 7-4

One Mile Up

757ESTRN.EPS 8-2
PHANTOM.EPS 8-2
ANCHOR1.EPS 8-2
ARYMYSEAL.EPS 8-2
BANNER4.EPS 8-2
BNBRIDGE.EPS 8-2
C141C.EPS 8-2
1ST_SUB.EPS 8-2
F16CLIMB.EPS 8-2
F16UPBLK.EPS 8-2
IBMPS2.EPS 8-2
LAMPS.EPS 8-2
F4.EPS 8-3
MK46.EPS 8-3
MOB_LNCH.EPS 8-3
NASP.EPS 8-3
OSCAR.EPS 8-3
THNDRBRD.EPS 8-3
STFSGT.EPS 8-3
TRAWAREV.EPS 8-3
USCG_MAN.EPS 8-3

USCG_200.EPS 8-3
WASH_MON.EPS 8-3

T/Maker Company

EUSSRSHT.EPS 8-3
FLOWER2.EPS 9-2
PALMTREE.EPS 9-2
PLANT.EPS 9-2
PARROT.EPS 9-2
PANDA.EPS 9-2
TROUT.EPS 9-2
COAST.EPS 9-2
FLORIDA.EPS 9-2
GLOBE1.EPS 9-2
SEASON.EPS 9-2
SHELL.EPS 9-2
BORDER3.EPS 9-2
FAX.EPS 9-3
OCCUPAT.EPS 9-3
CAMERA_2.EPS 9-3
SLIDE.EPS 9-3
DINGBAT1.EPS 9-3
TAPE.EPS 9-3
PIANO.EPS 9-3
BASEBALL.EPS 9-3
HORN.EPS 9-3
SAIL_BOA.EPS 9-3
MAN.EPS 9-3
PORSCHE.EPS 9-3

Index

!

3G Graphics Inc. 2-1

A

Acebo 3-1
ArtRight Software Corporation 4-1

C

Clip art
opening 1-3
saving 1-3
subdirectories 1-1
using 1-1

D

Dream Maker Software 5-1

E

Elements with more than 255 points A-1

H

Hijaak file conversion utility 1-2

L

Load Image command 1-2

M

Marketing Graphics Incorporated 6-1
Merge File command 1-3
Metro ImageBase 7-1

O

One Mile Up 8-1
Open command 1-3

S

Save As command 1-3

T

T/Maker Company 9-1

V

Vendor
3G Graphics, Inc. 2-1
Acebo 3-1
ArtRight Software Corporation 4-1
Dream Maker Software 5-1
Marketing Graphics Incorporated 6-1
Metro ImageBase 7-1
One Mile Up 8-1
T/Maker Company 9-1

"ASTONISHING

to get this much creative power and flexibility in a package costing less than $100!"

IRA BLATT, Training Specialist, New York, NY

THE BIGGEST ADVANCES IN PC SOFTWARE have been in vector graphics draw products. Their unparalleled power and flexibility enable PC users to create commercial art easily without professional skills and training.

Every PC user should have this creative power at their fingertips. But there are two barriers... price (typically $495-$595!) and the need to learn Windows which is complex and requires expensive hardware. Until now. Introducing Key Draw! Plus, the only draw package with the features of Corel at a tenth of the price. And it runs on the DOS PC you have now!

But if you already use Windows, don't despair! Key Draw! Plus works with Windows too, and it even produces Windows metafiles (WMF format).

Here's how you harness the power of Key Draw! Plus

First, scan or draw any image on your PC screen. Or choose from thousands of professional drawings in the Key Draw! Plus commercial art library included free!

Next, add text and bring it alive with 35 type faces from 2 to 500 points in size.

Now the fun begins. Add color... there are 16 million to choose from! Even create brilliant directional or radial fountain fills with logarithmic or linear color transitions. No other software gives you this control over color.

Next, stretch your image into the third dimension by adding shadows and textures. Trigger incredible special effects like the Shape Blender that visually translates one image into another a displays the transformation. Slip into overdrive you mirror, trace, skew, shadow, push, pull a rotate your graphics and text to add drama effects that used to take commercial artists ho to achieve. With Key Draw! Plus you become t master of your medium and your message.

The built in file converter lets you import/export without limit!

No matter what software you use now, Key Dra Plus will make it better. Just look at the file form you can access: GEM (Key Publisher); CG (Harvard Graphics & Key Chart 2000); PIC (Lot 1-2-3 & Key SpreadSheet); DXF (AutoCAD); W (Windows & Corel DRAW!); IMG (Key Paint 200 PCX (PC Paintbrush & Key ClipMaster); TIF; E (Ventura Publisher, PageMaker & WordPerfec Get hundreds more fonts with Key FontMaster.

SYSTEM REQUIREMENTS: IBM PC, XT, AT, PS/ PS/2 and compatibles. Requires minimum 640 DOS 3.1 or higher and hard disk. Supports He cules, EGA and VGA monitors. Mouse recon mended. LIM EMS memory supported but n required. Supports all Epson and compatible d matrix printers and HP compatible laser printer Also supports monochrome or color Postscri compatible printers and photo-typesetters, App LaserWriter, Toshiba P321, P341 & P351 printe and MAGICorp 35mm color slide systems Portions of this product are licensed from DIGITA RESEARCH INC.

THE SOFTKEY STORY: BEST SELLING TITLES AT PAPERBACK PRICES

With SoftKey you get all the latest features, frequent upgrades and superb technical support. Comparable products cost much more. How do we do it? Simple. It's the SoftKey way of doing business – many different products, large production runs, efficient packaging, low overheads. The savings are enormous. And we pass them on to you. Softkey brings you into the new age of software publishing – cutting prices, not quality or features. SoftKey's shares trade on NASDAQ, symbol SKEYF.

For more information about SoftKey, or to obtain a catalog of our many products, please write or fax:

SoftKey Software Products of Florida, Inc. • 4800 North Federal Highway • 3rd Floor, Building D • Boca Raton, FL 33431

SALES (407) 367-0005 FAX (407) 367-1611 TECHNICAL SUPPORT (407) 367-1415

PRODUCT OF U.S.A.